

**5th INTERNATIONAL CONFERENCE ON
EMERGING TRENDS IN ENGINEERING &
TECHNOLOGY (ICETET - 2023)**

19th & 20th APRIL 2023

BOOK OF ABSTRACTS

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The main objective of this conference is to create awareness and to provide a perfect platform for the participants to upgrade their knowledge and experience and to discuss on the ways to disseminate the awareness of the latest developments and advances in the Field of Engineering and Technology. This conference reflects the current focus of global research, recent developments, challenge and emerging trends in the field of information, Communication and Technology

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ANALYSIS OF HIGH RISE BUILDINGS WITH BLAST RESISTANCE FOR DIFFERENT STRUCTURAL SYSTEMS

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ABSTRACT

In the recent past, trend has been shifted towards construction of tall and slender buildings to mitigate the scarcity of land in the busy areas. In today's scenario threat of enemies and terrorist attack is increasing. A bomb explosion within or immediately nearby a building can cause catastrophic failure of the building. Therefore, consideration of blast load in analysis and design of important structures is essential. The study explores three-dimensional nonlinear dynamic responses of typical tall building under blast loading. The G+ 41 story irregular reinforced concrete building is designed for dead, live and wind loads for different structural systems like bracings, shear wall, diagrid systems. The work mainly focuses on the dynamic response and performance level of building under blast loading. The calculation of Blast load on building is carried out by using IS 4991 (1968) criteria for blast resistant design of structures for explosions above ground.

Keywords: Dynamic Responses, Tall Building, Blast Resistance

ANALYSIS OF POST-TENSIONED FLAT SLAB STRUCTURES WITH FLOATING COLUMN

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ABSTRACT

The term “Flat Slab” refers to a slab without beams that rests directly on supports (such as columns and or walls) because of that large Bending Moment & Shear Forces are generated close to the columns. The flat slabs construction system eliminates the use of beams in traditional methods of construction. The slab directly rests on the column, and the load from the slab is transferred to the columns and then to the foundation. To support heavy loads, the thickness of the slab near the support with the column is increased, and these are known as drops, or columns are generally provided with enlarged heads known as column heads or capitals. The absence of a beam results in a plain ceiling, which enhances the architectural appearance. Post-tensioning is a method of reinforcing (strengthening) concrete or other materials with high-strength steel strands or bars known as tendons. Post-tensioned construction is becoming more popular in industry today because of their advantages. The use of post tensioned flat slabs is now a cost-effective solution for improving seismic performance in the construction industry. Column heads or capitals are commonly used with drops or columns. They are commonly used for architectural reasons in larger rooms such as auditoriums, vestibules, theatre halls, and retail show rooms where column free space is often the primary requirement. Here we consider (G+13) and design a three models and in it with inclusion of the floating column and the results are compared and discussed

Keywords: Flat Slab, Floating Column

NONLINEAR BEHAVIOUR OF REINFORCED CONCRETE STRUCTURE

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ABSTRACT

Existing constructions have suffered significant damage as a result of earthquakes. As a result, there are numerous fatalities, injuries, and financial losses. Therefore, it is critical that structures are seismically evaluated. Due to its ease of use and superior seismic assessment of both new and existing structures, Non-Linear Analysis is a contemporary and well-liked method for earthquake resistant design. The structural behavior during a powerful earthquake's ground motion is better understood. A topic of extreme importance to the community of civil engineers is the nonlinear Static analysis of civil engineering structures. In general, linear analysis is not the only way to evaluate how well a structure would fare during seismic shocks. To determine the initial properties of the structure, such as its natural frequency and damping ratio, linear analysis can be used. Non-linear analysis is necessary to comprehend the structural behavior outside of the linear elastic domain. The nonlinear response of RC structures will be analyzed in accordance with ASCE-14 & IS1893. It aids in the investigation of the structure's behavior under various loading situations, its load deflection behavior, and the pattern of cracks. The current work used ETABS to perform Pushover analysis & Response spectrum on RCC frames without vertical irregularity under the loading. This Paper proposes a method for determining the PHP parameters (plastic hinge properties) for pushover analysis of RCC structures. The goal is to compare the outcomes of Linear & Non-Linear Analysis. while looking into the relative weights of various variables in the non-linear Analysis & Linear Analysis of RCC frame models. The variations in the load displacement graph, such as the pushover curve, storey shears, inter-storey drifts, lateral displacements, hinge properties, and performance point are included here.

Keywords: *Response spectrum, RCC frame*

DETERMINATION OF SHORTEST AND FASTEST PATH BETWEEN FIRE-CRACKER INDUSTRIES AND FIRE STATIONS AROUND SIVAKASI USING Q-GIS

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ABSTRACT

The shortest path is the path between two points that has the minimum distance or cost, while the fastest path is the path that has the minimum travel time, which depends on factors such as speed limits, traffic congestion, and road conditions. QGIS (Quantum GIS) is a free and open-source geographic information system (GIS) software that allows users to create, edit, visualize, analyze, and publish geospatial information on a variety of platforms. Firecracker industries are known to be high-risk areas where fires or explosions can occur due to the nature of their production processes and materials used. To perform the analysis of the fastest and shortest path between fire stations and firecracker industries in and around Sivakasi, the following data needs to be collected: Location data of fire stations and firecracker industries, Information on the road network connecting the locations. This data can be obtained from various sources like Open StreetMap, local government agencies or commercial data providers. Once the data is collected, it needs to be prepared for use in QGIS. This involves cleaning the data, checking for any errors and formatting it in a way that can be imported into QGIS. By preparing the data properly, it can be used to perform the necessary analysis to identify the fastest and shortest path between the fire stations and firecracker industries in and around Sivakasi. Determining the fastest and shortest path between firecracker industries and fire stations is necessary for timely response to fires or accidents in high-risk areas. Using QGIS to calculate these paths, emergency responders can identify the most efficient and quickest route to reach the site, saving time and potentially reducing loss of life and property damage. These calculations can also help improve emergency management plans and enhance public safety in the area.

Keywords: QGIS, Geographic Information System

PERFORMANCE BASED ANALYSIS OF TALL STRUCTURES WITH TUNED VISCOUS MASS DAMPERS FOR SEISMIC NEAR FAULT GROUND MOTION,

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ABSTRACT

Globally the tall structures are major structures for housing industries as they have become a major indicator for the growth and development as the safety of these structures is concerned the factors affecting its stability are dynamic loads such as earthquake ground motions therefore it is necessary for the building to be safe under such seismic factors but recently another device called inerter has been regarded as a passive vibration controller as it might help in reducing the effects of the dynamic loads on the building, hence a new element named tuned viscous mass damper (TVMD) has been introduced in some of the recent studies which acts as a mass amplification device based on the relative displacement applied on its ends. This study aims to use TVMD in a G+15 storey high rise RC building which is provided to reduce the ground motion effects on the structure IS-1893 code based methods are adopted to determine the seismic responses such as drift, and inter-storey acceleration of the building without TVMD. After time history analysis it was observed that inter-storey acceleration and inter-storey drift were found to be reduced significantly from the structure without the TVMD as it was also found that it was beneficial in also reducing the drift and acceleration of the building caused by the earthquake.

Keywords: *Tuned Viscous Mass Damper, Negative Stiffness, Inerter, Passive Vibration Controller, Mass Amplification*

DESIGN OF NETWORK BRIDGE USING IRC CODES

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ABSTRACT

The goal of the current dissertation is to design and analysis a network arch bridge's hanger configuration and structural stability. A network arch bridge is a tied-arch bridge with inclined hangers that at least twice cross each other. There is also a comparison with different hanger configurations performed. The provided and briefly discussed solutions pertain to spans, materials, and deck cross-section typology. The major bridge's modelling utilizing a tridimensional finite element model is explained. For the chosen solution, a thorough investigation of the hanger arrangement's impact on structural behavior is conducted. The stress distributions, deflections, relaxation, and fatigue behavior of four distinct hanger arrangements—a vertical, and different Network arrangements—are studied. Analysis and design will be done using MIDAS CIVIL 2022 software.

Keywords: Network Bridge, IRC Codes

PERFORMANCE EVALUATION OF AN ELECTROSTATIC PRECIPITATOR FOR THE PAPER INDUSTRY

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ABSTRACT

In the paper industry, Electrostatic Precipitators (ESP) have a major role in removing particulate matter out of the gas waste stream from recovery boilers or power boilers. Apart from self-weight, temperature load plays a key role in the design of this type of structures. The thickness of the wall is determined based on the loading conditions and geometry, and it varies mainly because of the stresses acting on the structure. In this project, both RCC and steel ESP are considered under temperature loading. The wall thickness of the structure is decided based on the temperature resistance capacity and cost.

Keywords: ESP; Temperature load; Wall thickness; Recovery and power boiler.

ENERGY BASED SEISMIC DESIGN OF MULTISTOREY RCSTRUCTURE

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ABSTRACT

Modern structural engineers believe that the traditional force-based seismic design approach is no longer the only effective strategy to create structures that are vulnerable to ground vibrations. Because it doesn't take inelastic displacement into account, length of seismic motion and flexible structural behaviour. The above-mentioned challenges are generally addressed with fresh and well-liked alternatives at the moment, such as the displacement-based method. Energy-based approach is another convenient tool to examine the seismic response of structures under seismic action and probably the best way to include duration of ground motion within the analysis. The current code-based in India and does not explicitly provide insight into its post-earthquake behaviour. In this study, a multi-story RC structure is designed with the help of conventional force-based design as per Indian Standards and the obtained parameters such as base shear, story drift and displacement are compared with the parameters obtained by energy-based design.

Keywords: *Force-based design; energy-based design; RC structure; base shear; story drift; displacement*

SELECTION OF OPTIMUM DIAGRID ANGLE FOR TALL STRUCTURES

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ABSTRACT

Diagrid structures made of steel members have become increasingly popular in the construction of large-span and high-rise buildings with complex geometries and curved shapes. They offer both strength and aesthetic appeal and provide architects with greater flexibility in their designs. Despite their growing usage, however, the concept of diagrid remains under-researched. This paper aims to address this issue by investigating the impact of varying the angle of the diagrid system on multi-storied office buildings of similar area, with square and circular shapes. The angle of the diagrid is determined by the height of the storey module, and three different modules are considered for 13 and 25 storey buildings: 2, 4, and 6 modules. The models are tested for zone 3 using ETABS software, and the results are analysed based on base shear, storey displacement, and storey drift using response spectrum analysis. The study concludes that an angle between 60° and 74° yields better performance

Keywords: Diagrid, Tall Structures, Response spectrum, Dynamic Analysis.

ANALYSIS AND DESIGN OF SOLAR ARRAY UNDER WIND SNOW AND SEISMIC LOADS

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ABSTRACT

As one of the most common and imperative contributing factors to clean energy aspect, solar energy takes a significant role around the whole world. In the photovoltaic (PV) solar powerplant projects, PV solar panel (SP) support structure is one of the main elements and limited numerical studies exist on PVSP ground mounting steel frames. This paper presents a comparative analysis of wind load and snow loads of different mounting systems of PV modules with solar tilt update for urban applications. Three tilt angles have been considered: 10, 15 and 20 degrees. It provide a contribution to the a PVSP steel support structure and its key design parameters, calculation method, detail of on a solar power plant are described to obtain actual demand of environmental effect like loads wind, snow, and seismic loads conforming with American codes and standards. Model is created in RISA 3D and followed by finite element analysis to determinemaximum stress distribution on the PVSP steel support structure

Keywords: *Ground-mounted photovoltaic power plant, turbulent flows, inclination angle*

SOLAR POWERED SMART IRRIGATION SYSTEM

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ABSTRACT

This paper discusses innovative technology in terms of various ways to irrigate agricultural land using solar power. Agriculture is the central heart for the nation and farmers. Nowadays Agriculture is decreasing day by day because of reduction of water and it consumes more electricity and loss of water in many fields like irrigation fields here because the overflow of water in irrigating land results in loss of water and also it will make plants decay. To control this cause we are using renewable energy by means of solar panels along with a pump and monitoring control system with four sensors. With the help of this system we are able to reduce, save and consumption of water will be in the limit without loss of water. This system performs automatically because an automatic monitoring system is provided.

Keywords: Irrigation Fields, Monitoring System

IMPACTS OF TRANSPORT ON ECONOMY USING SYSTEM DYNAMIC APPROACH

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ABSTRACT

This paper examines the impacts of road transport accidents on the economy. Road transport accidents are a major cause of human and economic losses globally. The paper provides an overview of the current literature on the topic, highlighting the various direct and indirect economic costs of road accidents, including medical expenses, lost productivity, property damage, and legal expenses. Additionally, the paper analyzes the relationship between road accidents and economic growth, highlighting the potential negative impact of road accidents on GDP. Furthermore, the thesis paper investigates the role of some of government policies and interventions in mitigating the economic impact of road accidents. The study provides an in-depth analysis of various policies and initiatives aimed at reducing the incidence and impact of road accidents, including traffic laws, road infrastructure improvement, and awareness campaigns. The findings of the research highlight the significant economic impact of road transport accidents, underscoring the need for concerted efforts to address the issue.

Keywords: *GDP, Road Transport Accidents*

OVERLOADED BRIDGE PROTECTION SYSTEM FOR PEDESTRIAN SUSPENSION BRIDGE

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ABSTRACT

This paper proposes an overloaded bridge protection system for pedestrian bridges using load sensors, control gate, and indication. The system is designed to enhance the safety of pedestrians by preventing excessive weight from being placed on the bridge and maintaining its structural integrity. The load sensors installed on the bridge detect changes in weight distribution and provide an accurate measure of the load on the structure. The control gate, which can be operated automatically or manually, prevents pedestrians from entering the bridge when the weight exceeds the safe limit. The indication system, located at visible locations such as the entrance or exit of the bridge, provides a visible and audible warning of the overload condition. This ensures that pedestrians are aware of the potential danger before they enter the bridge, preventing further weight from being added to the structure. The proposed system provides an effective and reliable solution for ensuring the safety of pedestrian bridges, reducing the risk of accidents, and ensuring the long-term viability of these vital structures.

Keywords: Pedestrian Bridge, Bridge Protection

BRIEF REVIEW ON APPLICATION OF FORENSIC ENGINEERING IN INFRASTRUCTURES

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ABSTRACT

The study of structures and identifying the reasons why they fail are key components of forensic structural engineering. Forensic structural engineering is becoming into a recognized area of professional practice for finding the reasons of structural collapses and holding those accountable. The work entails conducting engineering investigations, formulating judgments, and, if necessary, providing expert testimony in court procedures. Engineering investigations and claim resolution are typically conducted after failures of built facilities, whether they occur during construction or later in their service lives. The forensic structural engineer works in a competitive environment and must be able to conduct the required investigations as well as understand the fundamental principles of the practice of forensic engineering because the findings invariably lead to claims of damage and frequently result in disputes and legal entanglements. Information from in-depth examinations of construction performance failures can be employed by practicing engineers in design and contracting organizations on a national and international level to decrease risks and raise construction standards. . Implementation of various destructive like core sampling, steel sampling, etc and non-destructive tests like Rebound hammer, Carbonation test, Chloride test, etc to determine the damage effects.

Keywords: *Forensic Engineering, Structural collapse, Rebound hammer, Investigations, core sampling.*

EXPERIMENTAL STUDY ON KAOLIN BASED CONCRETE FOR SULPHURIC ACID RESISTANCE

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ABSTRACT

Concrete, which has an alkaline nature, is not very protective against sulfuric acid attack. Severe attacks of sulfuric acid cause the concrete infrastructures to deteriorate and result in economic losses to maintain and repair them. The aim of this research is to investigate the strength of kaolin-modified concretes when they are severely attacked by sulfuric acid solutions with constant PH for exposure durations of 7, 14, 28 and 42 days. The modified concretes were made by adding 0% to 20 % kaolin by mass of cement. The compressive strength, durability, mass of the specimen at various ages have been found out. The percentage of the strength loss caused by sulphuric acid attack depends on the percentage of kaolin and 10% kaolin-modified concrete can withstand the severe attack of sulphuric acid better than ordinary concrete.

Keywords : Sulphuric acid, Kaolin.

ESTIMATION OF WATER QUALITY PARAMETERS OF CHEMBARAMBAKKAM LAKE AND ITS ASSOCIATED TRIBUTARIES

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ABSTRACT

Globally, the rapid growth of the population over the past century has per enormous pressure on freshwater resources. India, as a developing country, also faces a freshwater crisis. Therefore, a brief study was planned to analyze the water quality of the chembarambakkam lake and the associated recharge streams. Six physical and chemical parameters were selected such as pH, temperature, hardness, chloride, BOD, Dissolved oxygen, turbidity and total dissolved solids. Five sampling points were selected for water sampling they are Saveetha engineering college, Malayambakkam, Nandambakkam and Chembarambakkam.

Keywords : *Rawal lake, Water quality, electric contamination, bacterial contamination, freshwater demand*

ANALYSING THE BOND STRENGTH OF CONCRETE BY USING SELF COMPACTING CONCRETE

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ABSTRACT

The paper presents some tests made on self-compacting concrete .The main goal to find the bond between self-compacting concrete and the reinforcement .There were made tests on two different mixes of self-compacting concrete and one mix of normal vibrated concrete .The tests were made according to RILEM specifications using the pull out tests made on cubes .The paper study the influence of concrete type, reinforcement type and mean bond stress .Also , the paper presents a comparison between the bond stress-slip curves of the specimen tested

Keywords : Self compacting concrete, Bond strength

STUDY OF FLEXURAL BEHAVIOUR OF STRUCTURE BY REPLACING OF THE REINFORCEMENT TO FRP MATERIAL

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ABSTRACT

fiber reinforced polymer (FRP) has been confirmed to be the solution as a major development in strengthened concrete technology. FRP rebars have diameter 12.5 mm (this value is equivalent to 0.5 inch; it's most common in foundations application). FRP surfaces are modified by the inclusion of coarse sand to increase the bond strength of rebars with concrete. Then, the mechanical characterizations of reinforced concrete with FRP rebars are performed and compared with that of steel rebars. Preparation of concrete samples (unreinforced concrete, smooth FRP reinforced concrete, sand coated GFRP reinforced concrete and steel reinforced concrete) with fixed ratio of ingredients (1:1.5:3) and 0.5 W/C ratio were performed at two curing ages (7 and 28) days in ambient temperature. The value of volume fraction of GFRP and steel rebars in the reinforced concrete was (5 vol. %) equally distributed with specified distances in the mold. The results show the tensile strength of FRP rebar is 593 MPa and bend strength is 760 MPa. The compressive strength was within reasonable range of concrete is 25.67 MPa. The flexural strength of unreinforced concrete is 3 MPa and reinforced concrete with FRP rebar, especially sand coated FRP RC exhibit flexural strength is 13.5 MPa as a result to increase bonding with concrete and higher strain is 10.5 MPa at 28 days than that of steel reinforced concrete at the expense of flexural modulus.

Keywords : FRP rebars; Steel rebars; Reinforced concrete; Mechanical properties

DEPARTMENT OF COMPUTER AND SCIENCE ENGINEERING ATTENDANCE MANAGEMENT SYSTEM

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ABSTRACT

Mobile Phone Based Attendance System is an application environment development package covering functions and activities in colleges for student attendance registration. Automation was done using Java, Android as frontend tool and MySQL as backend tool. The operating system used in this project is Windows. This project is simple and easy to master. This software provides easy searching and fast data storage. Streamlines and reduces administrative burden within institutions.

Keywords: *MySQL, data optimization*

INTELLIGENT HANDS FREE SPEECH BASED SMS SYSTEM ON ANDROID

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ABSTRACT

Over the years speech recognition has taken the market. The speech input can be used in varying domains such as automatic reader and for inputting data to the system. Speech recognition can minimize the use of text and other types of input, at the same time minimizing the calculation needed for the process. A decade back speech recognition was difficult to use in any system, but with elevation in technology leading to new algorithms, techniques and advanced tools. Now it is possible to generate the desired speech recognition output. One such method is the Hidden Markov Model (HMM) which is used in this paper. Voice or signaled input inserted through any speech device such as microphone, then speech can be processed and converted to text hence able to send SMS; also Phone number can be entered either by voice or you may select it from contact list. Voice has opened up data input for a variety of users such as illiterate, handicapped, as if the person cannot write then the speech input is a boon and other's too which can lead to better usage of the application.

Keywords: Hidden Markov Model, Speech recognition.

CRYPTO CURRENCY FORECASTING AND PREDICTION

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ABSTRACT

The study examines the predictability of three major cryptocurrencies—bitcoin, ethereum, and litecoin—and the profitability of trading strategies devised upon machine learning techniques (e.g., XGBoost, Gradient Boosting, and Random Forest). The models are validated in a period characterized by unprecedented turmoil and tested in a period of bear markets, allowing the assessment of whether the predictions are good even when the market direction changes between the validation and test periods. The classification and regression methods use attributes from trading and network activity for the period from August 15, 2015 to March 03, 2019, with the test sample beginning on April 13, 2018. For the test period, five out of 18 individual models have success rates of less than 50%. The trading strategies are built on model assembling. The ensemble assuming that five models produce identical signals (Ensemble 5) achieves the best performance for ethereum and litecoin, with annualized Sharpe ratios of 80.17% and 91.35% and annualized returns (after proportional round-trip trading costs of 0.5%) of 9.62% and 5.73%, respectively. These positive results support the claim that machine learning provides robust techniques for exploring the predictability of cryptocurrencies and for devising profitable trading strategies in these markets, even under adverse market conditions.

Keywords: *Cryptocurrency, Machine learning techniques, Classification and regression.*

SEWERAGE INUNDATION: A MACHINE LEARNING AND CLOUD COMMUNICATION BASED PREDICTION ICETET23-CSE04

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ABSTRACT

Sewage overflow can occur when there is too much water flowing into the sewer system, causing it to back up and overflow. To avoid this we came with a machine learning and cloud computing system that utilized a highly significant sensors for measuring water level, water flow, and methane gas concentration which uses the machine learning algorithms - the KNN algorithm that is trained with the labelled datasets and communication of sensor's data are fed and managed in the cloud. The level of the sewage is constantly measured using the various sensors that are integrated with Arduino circuit and periodically validated with the defined overflow level. If it crosses that particular measurements an alert system using the IOT system would be actuated and the personalized SMS is forwarded to respected faculties. This message is specified according to each level of overflows and respected level of seriousness is sent along with the message and won't stop until required response action is taken, the alert will be given to higher faculties and so after to the people if none responses within the allocated time. As a result, manual drain inspection will be avoided, and a quick response is made possible without any delay or human involvement.

Keywords: IoT system, Sewage overflow and KNN algorithm.

CUSTOMER LOAN ELIGIBILITY PREDICTION AND VISUALIZATION USING MACHINE LEARNING AND DATA ANALYTICS

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ABSTRACT

Banks are making major part of profits through loan, even if many people are looking for loans. It's challenging to choose a genuine applicant who will return the loan. Many errors may occur when selecting the real applicant when the process is done manually so machine learning model is used. Proposed model is created by an machine learning-based loan prediction system and dashboard visualization that will choose the qualified applicants on its own. Both the applicant and the bank staff will benefit from this proposed model. There will be a significant reduction in the loan sanctioning period of time. In this project proposed system uses machine learning technique to predict the loan and data analytics to visualize a stunning dashboard.

Keywords: *Machine Learning based loan prediction system & dashboard visualization.*

CONTEXT AWARE RECOMMENDER SYSTEM: A SURVEY OF RECENT TRENDS & FUTURE CHALLENGES

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ABSTRACT

Users can store, analyse, and access large amounts of information created by electronic and automated equipment with the help of intelligent data management techniques. One area where this is particularly useful is in recommender systems, which have been developed to combat the ever-increasing abundance of internet information. Given the prevalence of recommender systems, it is impossible to overstate the importance of internet-based apps and their skill to address a large range of over-choice-related difficulties. However, early recommender systems did not have an awareness of the need to contextualize data regarding user recommendations. Now available are Context-Aware Recommender Systems (CARS), which combine standard two-dimensional search methods with contextual data to provide more personalized user suggestions. A paradigm for creating intelligent systems that can more accurately foresee and anticipate user demands and respond more effectively to their behaviour is contextualization. The objective behind the paper is to design and develop an enhanced context-aware recommendation model using deep learning technique that generates accurate recommendations based on the user's environment and surroundings and scenario.

Keyword: *Context-Aware Recommender Systems and Deep Learning technique*

TEXT SUMMARIZATION TECHNIQUE USING NLP

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ABSTRACT

There is a massive amount of data floating around the world these days. Reading all of the data in society is a difficult task. This massive amount of data and information must be summarised in order to be used effectively. There are two types of text summarization: extractive and abstractive. The process of selecting the most important sentences from a document and compiling them into a summary is known as extractive summarization. While abstractive summarization is the process of understanding a document's concept and writing a summary based on that understanding. In this paper, we will discuss all of the possible methods of text summarization and review the various text summarization processes used in Natural Language Processing (NLP).

Keyword: *Text summarization, Natural Language Processing (NLP).*

NETWORK SECURITY

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ABSTRACT

Earlier, emailing and printer sharing were the main uses of computer networks. Security therefore received less attention. But, as more common people use networks for banking, shopping, and filing taxes, this is changing. The issue of network security is getting worse and worse. Many software technologies are now being developed in order to provide high protection levels against unwanted operations. The study of malicious network users' attacks has become the primary focus of current research. The measures implemented to stop and keep an eye on illegal access, misuse, modification, or denial of a computer network and network-accessible resources make up network security. Access to data on a network must be authorised, and the network administrator has authority over this process. It is crucial to learn about potential weaknesses in computer networks and then get knowledge of the common operations that have been launched against these networks in order to create solutions that make networks more secure. Consequently, in order to solve the performance issues, it is imperative to build quicker and more effective pattern matching algorithms. Studying the risks to network security and the steps or methods we should take to secure our network is the key topic.

Keyword: *Pattern matching algorithm and network security.*

PREDICTIVE CALVING ASSISTANT: AN IOT TOOL FOR MONITORING TEMPERATURE AND ALERTING CALVING ONSET

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ABSTRACT

Researchers from Virginia State University have found that almost 50% of all calfdeaths within the first 24 hours after birth, are a result of calving difficulty. Difficult calving may cause Dystocia, acidosis and hypoxia. Cattle breeders are unaware of the calving time of the cow,they don't know how long calving has been happening. So, it is inevitable to eliminate the calving complications due to lack of monitoring by introducing the Calving Alert System. A Calving alert tool is a tail-mounted sensor that measures tail movements. The device is placed on the tail of thecow opposite to the cow's vulva. Cameras are fixed in the cattle farm where the physical movementof the cow is monitored and analysed. An AI-based detection system can detect the physical movement of the cow during labor. On the day of calving, cows will have increased tail movementand a drop in temperature near the vulva. The calving alert tool will have sensors which can detectthe tail movements and the contractions of the vulva. Sensors also check the temperature of the vulva. When the cow reaches a certain level of intensity, tail movement and temperature, the Calving alert tool alerts the farmer through SMS and through the notifications in the app. The calving alert tool can be connected with multiple devices. In addition, there will be a sound alarm alerting the cattle breeders. The camera monitors the physical movement of the cow and processesthe data using Artificial Intelligence and Machine learning by Support Vector Machine algorit hm. By combined analysis of calving alert tool and the calving monitoring system, survivability of thecow and the calf can be increased.

Keywords: *AI based detection system, Tail-mounted sensor, Sensors, Sound alarm, Support vector machine algorithm.*

NLP BASED APPLICATION FOR MEETING SUMMARIZATION

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ABSTRACT

Human based old school technique to encapsulate the condensed version of the meeting consumes both manpower and time and we ought to hire employees and remunerate them. To avoid this, we opt for AI based Minutes of the meeting. This aids in a fast and easier way of gaining the output. And of course, it is affordable. From toddlers to tycoons, everyone calls for it. The software will attend all scheduled meetings automatically, record the voice and video as well. It also fetches chats or files which are being shared by the participants. They convey the essential content of conversations in a concise form. It detects the presence or absence of human speech by using Voice activity detection and the readability of the transcription is enhanced by speaker diarization which takes forward into text summarization. All the individuals speaking in the meeting can be identified and segregated with their voices. To this, a few productivity tools like reminding the deadlines and tracking of an employee's progress are included which in turn will help the clients. All these will incorporate an explicit summary of the meeting which indeed helps the clients in decompressing their work load. Using this methodology, different walks of people are benefitted and this algorithm proves to be helpful by summarizing with at most precision.

Keywords: Text summarization and Voice activity detection.

AUTISM SPECTRUM DISORDER CLASSIFICATION AND PREDICTION

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ABSTRACT

A neurodevelopmental illness called autism spectrum disorder (ASD) is frequently associated by sensory problems such an excessive or insufficient sensitivity to noises, smells, or touch. Early detection and therapy can assist to improve the problems even though the major cause is hereditary in nature. Intelligent diagnosis based on machine learning has evolved recently to supplement more time- and money-consuming conventional clinical approaches. In order to achieve an accuracy of 99% from our ASD and NON ASD datasets, the goal of this study is to classify the ASD and NON ASD and increase the accuracy using Tensor Flow 2 (Keras) and Support Vector Machine (SVM). The previous accuracy was 98.35, which we increased to 99%, providing superior results.

Keywords: ASD and NON ASD, Tensor flow & Support Vector Machine.

EVALUATION OF NEURAL NETWORK ARCHITECTURES FOR EMBEDDED SYSTEMS

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ABSTRACT

Since the emergence of Deep Neural Networks (DNNs) as a prominent technique in the field of computer vision, the ImageNet classification challenge has played a major role in advancing the state-of-the-art. While accuracy figures have steadily increased, the resource utilisation of winning models has not been properly taken into account. In this work, we present a comprehensive analysis of important metrics in practical applications: accuracy, memory footprint, parameters, operations count, inference time and power consumption. Key findings are:

(1) power consumption is independent of batch size and architecture; (2) accuracy and inference time are in a hyperbolic relationship; (3) energy constraint is an upper bound on the maximum achievable accuracy and model complexity; (4) the number of operations is a reliable estimate of the inference time. We believe our analysis provides a compelling set of information that helps design and engineer efficient DNNs.

Keywords: Deep Neural Networks, Image net classification.

POULTRY DISEASES PREDICTION IN AI

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ABSTRACT

In the modern era of Information and Technology, gadgets and electronic devices are now inevitable in our day-to-day life. Technology helps us to do our routine things in a well- organized manner and move forward at ease. In this era, we do have a miniature computer (smartphone) carrying in our pockets, getting not only connected with others but also with the internet giving us a plethora of options and information at our fingertips. Modern technologies viz. Artificial Intelligence (AI), Robots, Sensors devices, Drones, Augmented Reality, Internet of Things (IoT), and mobile apps, etc., could be put into use to exercise smart livestock farming/precision farming. Poultry producers face several key issues involved with such industry-level production like pressure on production cost, animal welfare, lack of sufficient skilled and trained labor, escalating antimicrobial resistance, environmental impact, etc. AI may help in addressing many challenges currently faced in the poultry industry. Another area with great potential for AI is in the early detection of poultry diseases, AI if trained with proper data set it has the potential to detect diseases during their incubation period, allowing the producers to quickly act to prevent the spread of disease throughout the flock. Using Computer/Artificial vision, AI could be trained for detecting early heat stress in birds by using thermal imaging cameras or infra -red cameras. Likewise, diseased birds from the flock can be identified based on their movement, posture, and behavior by image analysis collected from diseased birds and compared with the healthy ones.

Keywords: *Robots smart livestock farming early detection.*

IMPLEMENTATION OF DISTRIBUTED LEDGER TECHNOLOGY, ARTIFICIAL INTELLIGENCE, EXTENDED REALITY AND QUANTUM COMPUTING IN THE UNMANNED AERIAL VEHICLE FOR COVID-19

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ABSTRACT

The year 2020 has witnessed the emergence of coronavirus disease (COVID-19) that has rapidly spread and adversely affected the global economy, health and human lives. The COVID-19 Pandemic has exposed the limitations of existing healthcare systems regarding its inadequacy to timely and effectively handle public health emergencies. The DARQ is going to make the new era of technology with the use of quantum computing for the treatment of people. Coronavirus is pushing people to avoid contact. Usage of unmanned autonomous drones for spraying disinfectant, to warning people to wear masks when they go out, delivering packages through drone and customers can pick up their packages at a fixed point, so avoid direct contact with people and automatic tracking of temperature of the people using thermal sensor. Blockchain technology can assist to track and trace of aerial drones, verify provisioned service level and calculate the reputation score of an aerial vehicle based on its performance in a trusted, accountable and transparent manner. Through implementing "ACCESS CONTROL PROTOCOLS", blockchain technology minimizes the possibility of attack by the adversarial vehicle.

Keywords: *COVID – 19, distributed ledger, artificial intelligence, reality, quantum computing, unmanned aerial vehicle.*

LUNG CANCER DETECTION AND CLASSIFICATION USING MACHINE LEARNING ALGORITHM

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ABSTRACT

In many diagnostic and therapeutic applications, automatic fault detection in CT images is crucial. due to the vast amount of data in CT Tumor classification and segmentation are exceedingly difficult due to pictures and hazy boundaries. To improve accuracy, yield, and speed up diagnosis, one automatic lung cancer detection method has been introduced in this study. The tissues are to be divided into three categories: normal, benign, and malignant. The amount of information contained in MR images is too great for manual interpretation and analysis. Lung cancer detection in CT has recently emerged as a new research topic in the realm of medical imaging system.

Keywords: *CT tumor classification and segmentation,MR images.*

AI ON HIRING

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ABSTRACT

A web application that automatically suggests the most suitable candidates for a job posting on LinkedIn or other internet platforms. It uses Natural Language Processing to extract details from resumes, Named Entity Recognition to identify entities in unstructured text, Tokenization to remove stop words, stemming and lemmatization, and feature selection to identify the main features of the job requirements and the candidate profiles. Machine learning Algorithms compare skills extracted from resume and train data set, generate cosine similarity score, performance score and comparison score to calculate the ranking of the resumes to recommend the top resumes of candidates for the interview/job.

Keywords: Tokenization, Natural Language Processing, stemming and lemmatization.

FINGERPRINT SENSOR TECHNOLOGY

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ABSTRACT

Fingerprint technology have improved the security features of the system . This paper presents the latest fingerprint sensor technologies including optical sensors, DC capacitive silicon sensors, RF capacitive silicon sensors, pressure sensors, thermal sensors and also ultra-sound sensors. The advantages and drawbacks of each technology are also reviewed. The suitable applications of each technology are also presented.

Keywords: *DC capacitive silicon sensors, RF capacitive silicon sensors & pressure sensor.*

IMPLEMENTATION OF PATTERN LOCK IN ANDROID SMARTPHONE

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ABSTRACT

Android is an operating system which is implemented in the mobile Android enabled mobiles/devices are high in use by huge number of users for various purposes. Other than for just calling, most of the users are using these devices for storing and maintaining important data such as personal information, calendar schedules, photos, videos, office documents and much more. These devices are also used for chatting through various instant chat messaging and social networking applications, emailing and internet browsing. In the investigation of many of the cybercrime cases, digital devices enabled with an android operating system are found as prime evidence at the crime scenes. With these devices an investigator can get the handful of information to track the call records, chat messages and activities on the device links to crime happened. This evidence is very useful in tracking down the culprit or criminals involved in the cyber crimes. In order to analyze the found devices, the devices lock must be bypassed to access the available sources of evidence in the digital form. This paper discusses the rooting of the android devices and methods to bypass the pattern lock.

Keywords: *Android operating system, cyber crime case.*

SECURED VISUAL SCANNER FOR SENSITIVE INFORMATION

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ABSTRACT

Iris technology has the smallest outlier group of all biometric technologies. The only biometric authentication technology designed for use in a one-to-many search environment, a key advantage of iris recognition is its stability. Biometrics deals with identification of individuals based on their biological or behavioral characteristics. Biometrics has lately been receiving attention in popular media. It is widely believed that biometrics will become a significant component of the identification technology. In today's society, biometric identification is integral to improved security. Biometrics is understood to be the most secure and reliable means of identification and is increasingly deployed in maximum security environments. Iris recognition is a method of biometric authentication that uses pattern recognition techniques based on high-resolution images of the irides of an individual's eyes. Not to be confused with another less prevalent ocular-based technology, retina scanning, iris recognition uses camera technology, and subtle IR illumination to reduce specular reflection from the convex cornea to create images of the detail-rich, intricate structures of the iris. These unique structures converted into digital templates, provide mathematical representations of the iris that yield unambiguous positive identification of an individual. Iris recognition efficacy is rarely impeded by glasses or contact lenses. In this paper, we present the security of vehicles, especially cars, using the iris recognition method. The iris recognition method gives better performance than all other image processing systems.

Keywords— *Biometrics, identification, verification, authentication, security, research issues, evaluation*

DDOS ATTACK ON NETWORK SECURITY

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ABSTRACT

Distributed Denial of Service (DDoS) attacks have become a significant threat to online services and web applications. DDoS attacks are designed to disrupt the availability of services by flooding the target system with a massive amount of traffic, making it unavailable to legitimate users. This paper provides an overview of DDoS attacks, including their types, characteristics, and the methods used by attackers to launch these attacks. The impact of DDoS assaults on enterprises, including monetary losses, reputational harm, and possibly legal repercussions, is also covered in the article. The article also examines several methods and tools, including firewalls, intrusion detection and prevention systems, and content delivery networks, that are used to lessen the consequences of DDoS attacks. The paper underlines the significance of creating an incident response strategy in addition to technological measures to deal with the effects of DDoS assaults. In order to counteract the growing threat of DDoS assaults, the report also emphasises the necessity of coordinated actions among businesses, internet service providers, and law enforcement authorities. This paper's conclusion highlights the urgent necessity for enterprises to prioritise network security and put in place effective defences against DDoS attacks. It provides an overview of the current state of DDoS attacks and offers insights into best practices for defending against this significant threat.

Keywords : DDoS attacks, target system, firewalls, network security.

INTELLIGENT INTERFACE FOR FAKE PRODUCT REVIEW MONITORING AND REMOVAL

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ABSTRACT

The trend of online shopping is increasing day by day and many people want to buy their required products from online stores. This type of shopping does not take much of the customer's time. A customer goes to the online store, finds what they need, and makes an order. But what people have problems with when buying products from online stores is the poor quality of the products. Customers place orders simply by looking at prices and reading reviews related to specific products. Such comments from other people are a source of satisfaction for new product buyers. Here, a single negative review can turn the corner for customers not to buy the product. In this case, this review may be fake. Therefore, we have proposed Finite Resource Finder Counterfeit Product Review and Monitoring System (FaRMS) as a smart interface to remove this type of fake reviews and provide users with genuine reviews and product- related ratings. (URL) is associated with Amazon, Flipkart and Daraz products and analyzes reviews and provides customers with real prices. A unique feature of the system is that it works with three e- commerce websites and offers reviews not only in English but also in Urdu and Roman Urdu. Previous work on fake reviews did not support the feature of analyzing reviews written in languages like Urdu and Roman Urdu and failed to capture reviews on some e-commerce websites. The proposed work achieves an accuracy of 87% in detecting fake reviews written in English using intelligent learning methods, which is higher than the previous system's accuracy.

Keywords: *Finite Resource Finder Counterfeit Product Review and Monitoring System.*

ENHANCED INTELLIGENT INTERFACE FOR CROP YIELD AND DISEASE DETECTION ICETET23-CSE 22

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ABSTRACT

Machine learning and deep learning, expert system development, machine vision, speech recognition, forensics, autonomous weapon systems, precision agriculture, etc. It is used for many practical purposes such as We build a simple Machine Learning and Deep Learning website that recommends the best plants to grow, what fertilizer to use for your plants, and weed control measures such as your weed disease. Agriculture is one of the main sectors that affect the economic development of the country. In a country like India, the majority of the population depends on agriculture for their livelihood. Many new technologies, such as machine learning and deep learning, are introduced to agriculture, making it easier for farmers to grow and increase their productivity. In this project, I present a website where the following programs are implemented; Planting advice, fertilizer recommendations and plant disease forecasts. In the crop advisory program, the user can provide soil information and the user will be predetermined what the crop will grow. For the fertilizer advisory program, a user can input soil information and the type of crops planted, and the program will predict the lack or excess of soil and recommend improvements. For the last program, the plant disease prediction program, users can input images of diseased plant leaves and the program will predict what the disease is and provide some information about the disease and recommendations for its treatment.

Keyword: *Machine learning and deep learning, Disease detection.*

A HYBRID DEEP LEARNING MODEL FOR PNEUMONIA DIAGNOSIS FROM HIGH RESOLUTION CHEST RADIOGRAPHS

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ABSTRACT

Pneumonia is a form of acute respiratory infection that affects the lungs. It accounts for 14% of all deaths of children under 5 years old but 22% of all deaths in children aged 1 to 5 years. Digitalization move has provocation in healthcare industries for their improvement of medical management. Lack of quality of an image with appropriate number of training images is the major challenge faced by these automated models. The early diagnosis of the pneumonia has a great impact in get rid of pneumonia. In recent years, several models based on deep learning have been proposed for the identification of Pneumonia from X-ray image of Chest. Lack of quality of an image with appropriate number of training images is the major challenge faced by these automated models. To overcome this challenge, A Hybrid Artificial Intelligence model is proposed for pneumonia prediction. Considering the accuracy of the prediction, the SRGAN module and CNN module are integrated into an web application to the hybrid AI model for pneumonia prediction. The proposed model is inspired from Super Resolution Generative Adversarial Networks (SRGANs). The Generator of the proposed model involves six layers. Hence, the proposed model helps physicians to speed up the diagnosis process and reducing the time required to determine whether a person is a pneumonia victim.

Keywords: *SRGAN module and CNN module, pneumonia.*

NETWORK THROUGH CONSTELLATIONS OF SATELLITES

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ABSTRACT

This paper discusses the concept of using constellations of satellites to provide internet coverage to remote and underserved areas. Satellites are objects that orbit the Earth for a specific purpose, and they have played a crucial role in modern-day communication systems. The new innovation involves launching hundreds or thousands of small satellites into orbit, which work together to provide internet coverage. This technology has the potential to bridge the digital divide and provide internet coverage to any location on Earth, regardless of how remote or isolated it may be. Several companies are already working on launching satellite constellations to provide global internet coverage. The paragraph concludes by stating that this technology has the potential to revolutionize the way we connect to the internet, and it will be exciting to see how it develops in the future. The reduced cost of building and launching small satellites has made the concept of satellite constellations a more feasible solution for providing internet coverage. With the ability to provide high-speed internet to remote and underserved areas, satellite constellations could enable access to education, healthcare, and economic opportunities. However, there are also challenges to overcome, such as the potential for space debris and interference with other satellites. Nonetheless, the potential benefits of satellite constellations are significant, and they could play a crucial role in shaping the future of global connectivity.

Keywords: Constellations, satellites, network, communication, navigation, internet coverage, remote areas, global telecommunication system, technology, digital divide, innovation, affordability, high-speed internet, space debris, global connectivity.

PREDICTION OF DDOS ATTACK USING MACHINE LEARNING

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ABSTRACT

DDoS (Distributed Denial of Service) attacks have now become a significant risk to the integrity and confidentiality of computer networks and systems, which are essential assets in today's world. The DDoS attack is that the most important network- based attack within the domain of computer security that disrupts the web traffic of the target server. DDoS attack are most typical kind of cyber attack that are utilized by the attackers. Since this attack happens within the distributed systems it attacks lot of systems and affects much larger network. Detecting DDoS attacks could be a difficult task that has to be accomplished before any mitigation strategies is used. These attacks make the most of specific limitations that apply to any arrangement asset, like the framework of the authorized organization's site. It's necessary to figure with the newest dataset to spot this state of DDoS attacks. Here we are detecting different DDoS attack by various attacks and evaluate their performance. This is often a significant threat to any clients using the network services.

Keywords: DDoS, cyber attack, integrity and confidentiality.

GRID BASED STATELESS ROUTING PROTOCOL FOR WIRELESS SENSOR NETWORKS

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ABSTRACT

Maritime Search and rescue at sea plays an important role in ensuring the safety of life at sea. However, the use of Wireless Sensor Network (WSN) technology in marine transportation can withstand situations where the measurement information is insufficient. In data processing and networking for maritime applications, Wireless Sensor Networks (WSNs) have become an emerging trend due to their amazing capabilities. It is one of them. Node localization is an important factor. Because the location of the reporting node is unknown until and the data collected from his node is completely useless. The main purpose of this paper is to further improve localization using the Grid Based Stateless Routing Algorithm. To achieve this goal, range-free and distributed schemes with applications of Direction Based Forwarding (DBF) and Grid Based Reliable Routing (GBRR) for moving target nodes in maritime rescue networks are proposed. Results are compared to existing algorithms Particle Swarm Optimization (PSO) and Butterfly Optimization Algorithm (BOA). The proposed method has approximately 10% less localization error compared to PSO, BOA, and GBSR. The proposed algorithm is validated with respect to localization accuracy, node positions, localization error, and computation time.

Keywords: Wireless Sensor Network, Direction Based Forwarding & Butterfly Optimization Algorithm

SIGN LANGUAGE DETECTION

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ABSTRACT

This project focuses on detection of sign for hand gesture techniques and introduces merits and drawbacks in various circumstances. The hand segmentation theory and hand detection system is used for constructing hand gesture recognition by using Python with OpenCV. The hand gesture is as a natural interface which motivates research in gesture taxonomies, representations, and recognition methods/algorithms and software platforms/ frameworks, all of which are covered with detail in this project. The ever increasing public acceptance and fund for multinational projects emphasizes need for sign language. The desire for computer-based solution is important in recent age of technology for deaf people. Still, researchers are studying the problem for quite sometimes and results are showing promises. This project represents the comprehensive review of vision oriented sign recognition methodologies, emphasizing importance of taking things into consideration moreover with algorithm's recognition accuracy during predicting the success in real world scenario. This project matches given image with dataset images with numerous categories of sign (gestures). Here the convolutional neural network (CNN) has been implemented to increase the accuracy level. This project applies gray scale conversion, then binary image conversion and finally histogram construction and matching of given test image with data set images. The coding language used is Python 3.8

Keywords: Convolutional Neural Network, Histogram.

ANALYSIS OF ARTIFICIAL INTELLIGENCE APPROACHES FOR DISEASE DIAGNOSIS AND PROGNOSIS

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ABSTRACT

This article reviews the application of AI techniques in the medical field for the diagnosis and prediction of various diseases. It examines the use of Machine Learning (ML) and Deep Learning (DL) algorithms to automate forecasting and diagnosis processes, with a focus on Support Vector Machine (SVM) and Convolutional Neural Networks (CNN) as the most widely used methods. It also discusses the successes of AI in diagnosing and predicting cancers, heart, lung, skin, genetic, and neural disorders, as well as its existing challenges and limitations.

Keywords: Support Vector Machine (SVM) and Convolutional Neural Networks (CNN).

DATA LOSS TRANSMISSION IN 5G NETWORK BY ENABLING GREEN BLOCKCHAIN METHODOLOGIES

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ABSTRACT

Network embedding successfully maintains the network structure by assigning network nodes to low-dimensional representations. A considerable amount of progress has recently been achieved in the direction of this new paradigm for network research. In this study, we concentrate on classifying, analyzing, and pointing out the future direction for network embedding techniques to research. We begin by summarizing the purpose of network embedding. We talk about network embedding and how it relates to traditional graph embedding methods in a cognitive radio context. Following that, we give a thorough overview of the network embedding techniques methodical way, including advanced information-preserving network embedding techniques, network embedding techniques with side information, and approaches that structure and properties. Additionally, many methods of network embedding assessment and some practical online tools, such as network data sets and software, are explored. In the last section, we cover the foundation for utilizing these network embedding techniques to create a successful system and identify possible future paths.

Keywords: Blockchain, Green Computing, Green Blockchain, Renewable Energy, SDN, WPT, Systematic Mapping Study (SMS), Criteria.

AI-MENTAL FITNESS TRACKER ML-MODEL

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ABSTRACT

There is a growing need for individuals to monitor and manage their mental health, but it can be difficult to track changes in mental health over time and identify patterns or triggers that may impact it. Additionally, traditional mental health tracking methods may not be user-friendly or accessible to everyone. To develop an AI-based mental fitness tracker that can help individuals monitor their mental health and provide personalized insights and recommendations for improving their mental well-being. Overall, the development of an AI-based mental fitness tracker is a complex and multifaceted problem that requires expertise in data science, machine learning, and mental health. However, if successful, it has the potential to provide valuable insights and support for individuals looking to improve their mental well-being. In summary, the solution to the problem of developing an AI-based mental fitness tracker by using supervised algorithms like Decision Tree Learning, Support Vector, Neural Networks and unsupervised learning algorithms like Clustering, Association Rule Mining, Principal Component Analysis. By addressing these challenges, an AI-based mental fitness tracker can provide valuable insights and support for individuals looking to improve their mental well-being.

Keywords: AI based mental fitness tracker, Neural Networks and unsupervised learning algorithms

IT ASSET MANAGEMENT

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ABSTRACT

The methodical and effective management of an organization's hardware and software assets is referred to as asset management in the field of information technology. Asset management's main objective is to make sure that these assets are used wisely throughout their entire lifecycle, from purchase to disposal, in order to maximize their worth to the company. Asset tracking, inventory management, and financial management are just a few of the tasks involved in asset management. It also includes creating and putting into effect rules and practices that control the purchase, use, and disposal of assets. Organizations can gain a lot from effective asset management, including better decision-making, cost savings, and higher operational effectiveness. However, it necessitates a thorough comprehension of the company's IT infrastructure and an asset management plan that is in line with the company's overarching business goals. Asset management is now more crucial than ever in the quickly changing technological landscape of today, when businesses must manage an expanding number of assets, such as mobile devices, cloud services, and virtual machines. Asset management is now a crucial part of IT governance since it helps organizations better manage their IT assets and make sure they are in line with corporate objectives.

Keywords : Asset Tracking, Inventory Management, Asset Management, Maximize Profit

ENDEAVOR RX- A VIRTUAL TREATMENT TO ADHD AND AUTISM

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ABSTRACT

As by 2022, we have reached a far and wide in the field of medicine in various sectors, one such sector is in the field of mental health, the most complicated yet one of the most necessary sector in the field of medicine. The technology we are going to discuss in this presentation deals with autism and ADHD, Even though both of them may seem similar they are vastly different types of mental illness, Even though they share a number of similar symptoms they are different in their own rights, But the treatment technique we are here to discuss about could cure both of these conditions. We are talking about the new and first FDA approved video game ENDEAVORRX, the video game helps in children with autism and ADHD disorders. Let's take a deep look into this ENDEAVOR RX technique, the very first ever Food and Drug ADMINISTRATION (FDA) approved video game technology that helps children with ADHD or Autism. Boston-based company Akili Interactive's EndeavorRX made history by becoming the first-ever video game to be approved by the U.S. Food and Drug Administration as a medical treatment. In other words, it's the first FDA-approved prescription video game.

Keywords: Mental Health, ADHD, Autism, Endeavor RX

SNACKCHAT-MOBILE APPLICATION DEVELOPMENT

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ABSTRACT

The project's model is the recent rise in importance of communication through the internet. Users of internet communication may communicate with others quickly and conveniently[1]. In light of this, the web communication tool should allow users to send messages or photos or the other files more quickly, with little to no wait, or without any delay. For making great, natively built apps for mobile, web, and desktop from a single codebase, Google provides the Flutter transportable UI toolkit. Flutter is free and open source, interacts with existing code, and is used by developers and organizations across the globe[1]. Hike, WhatsApp, Telegram, and other chat services have been increasingly popular in recent years as a way for individuals to engage with one another across many platforms. The suggested network-based Android chat application is used to communicate with remote clients or users online, and it forbids users from sending offensive comments.

Keywords: Application, Flutter, Chat

MALWARE DETECTION USING NEURAL NETWORK

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ABSTRACT

Malicious assaults, malware, and ransomware families offer serious security challenges for cyber security, and they have the potential to cause catastrophic harm to computer systems, data centres, online, and mobile applications across a wide range of sectors and enterprises. Software (malware) has appeared and is growing in many formats and is becoming increasingly sophisticated. Criminals use them as a tool to infiltrate, steal or falsify information, causing huge damage to individuals, businesses and even threatening national security. It is a complex and varied threat that affects users globally, preventing them from accessing their system or data by locking the system's screen or encrypting and encrypting the users' files unless a ransom is paid. Traditional anti-ransomware technologies are unable to combat newly developed sophisticated assaults. As a result, cutting-edge approaches such as conventional and neural network-based designs can be very beneficial in the creation of unique ransomware solutions. In this project, propose a feature selection-based system for ransomware detection and prevention that uses deep learning methods, including neural network-based designs. We employed Multi-layer Perceptron classifiers on a sample of characteristics to classify malware. Then, to evaluate our proposed technique, we conducted all of the experiments on a single ransomware dataset. In terms of accuracy and precision ratings, the experimental findings show that MLP classifiers outperform other techniques.

Keywords: Anti-ransomware, Multi Layer Perceptron classifier, ransomware

VIRTUAL MACHINE CONSOLIDATION FOR STOCHASTIC LOAD BALANCING IN CLOUD DATA CENTER MANAGEMENT

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ABSTRACT

Resource allocation is the process of allocating VM to users efficiently. The main objective is to allocate resources dynamically in a virtualized storage system for authorized users with a self destruction approach. To implement VM consolidation mechanism which is a framework that provides run-time partitioning mitigation. Combine unused small numbers of spaces to create a new virtual space for users. Provide self-destruction approach to flush the data in the cloud provider using time to live property.

Keywords: Virtualised Storage System, Self Destruction, run – time partitioning mechanism

CURRENCY RECOGNISING FOR VISUALLY IMPAIRED PEOPLE USING DEEP LEARNING ALGORITHM ICETET23-CSE36

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ABSTRACT

Implement a simple system currency recognition system applied on 'Indian bank note. The proposed system is based on simple image processing utilities that insure performing the process as fast and robust as possible. The basic techniques utilized in our proposed system include Preprocessing, image segmentation with features extraction and finally deep learning based on neural networks. In this work, camera-based Indian rupee paper currency is trained to be recognized using very simple image processing utilities what makes the processing time is very short with acceptable accuracy.

Keywords: Image Segmentation, deep learning based neural networks.

AN EFFICIENT AND SECURE VOTING MECHANISM BUILD ON BLOCK CHAIN

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ABSTRACT

Voting is an essential component of democratic societies, and its integrity is crucial to ensuring the democratic process's fairness. With the advent of blockchain technology, the possibility of secure and transparent voting methods has grown. Traditional public blockchain-based voting systems, on the other hand, confront scalability, privacy, and accessibility challenges. We suggest a hybrid blockchain-based voting system in this paper that combines the benefits of both public and private blockchains. Our method is intended to be scalable, secure, and transparent, while also protecting the privacy and accessibility of voters. To guarantee the system's security and scalability, we use a hybrid consensus method that combines proof of work and proof of stake. Furthermore, we employ a novel zero-knowledge proof method to provide voter privacy while still guaranteeing the integrity of the voting process. We also include user-friendly interfaces to increase accessibility and encourage voter involvement, as well as two One Time Passwords, one for user login verification and another for vote verification. Our suggested system has the potential to revolutionize voting and could serve as a model for future secure and transparent democratic processes.

Keywords : Hybrid blockchain-based voting system, zero-knowledge proof

EVOLUTION OF COMPUTER SCIENCE

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ABSTRACT

Computer science is the study of computational systems, their design, development, and application. It includes a range of topics, such as algorithms, programming languages, databases, operating systems, computer networks, artificial intelligence, and computer graphics. Computer science has a significant impact on many aspects of modern life, from business and finance to healthcare and education. It is essential for the development of new technologies and innovations, including artificial intelligence, machine learning, and data analytics. Computer science also plays a vital role in solving complex problems in various fields, such as science, engineering, and medicine. As technology continues to advance, computer science will remain a critical discipline for advancing science, industry, and society. The theory, design, development, and use of computer systems are all topics covered by the large and quickly developing discipline of computer science. Algorithms, programming languages, databases, operating systems, computer networks, artificial intelligence, and computer graphics are just a few of the subjects it covers. Computer science is becoming an essential subject for improving science, business, and society due to the development of technology and the growing significance of computing in all facets of modern life. The significance of computer science in the modern period and its influence on the future are highlighted in this abstract.

Keywords: Databases, operating system, computer networks

EMERGING TRENDS IN AUGMENTED REALITY (AR) AND VIRTUAL REALITY (VR)

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ABSTRACT

AR and VR are two related but distinct technologies which change the way we interact with digital content. They connect the digital and physical worlds and allows us to visualize information and content, in the same way we are taking within the world. It is a fascinating technology that makes us experience a completely new world virtually through which ideas can be implemented practically with a much better understanding and innovation. The research is of significance as AR and VR are trending topics in the technology industry, with significant investments and developments being made in these areas. For instance, well-known tech giants Google, Apple and Microsoft have created AR and VR devices and platforms including Google Glass, AR kit and HoloLens. Even startups emerging today use ARVR to create immersive content. Virtual reality (VR) and augmented reality (AR) have been created to facilitate a pre-built environment due to their increased capabilities of immersive and interactive visualization. To give the user a far more pragmatic experience, this technology also uses programmed music, video, and even unchanging graphical representations. The paper presents our study on the usage of AR and VR in various aspects. Researches are done to expand knowledge in this sector. This is an exploratory study that validates and sorts the prevailing usage of AR and VR within the existing industry and guides future researches.

Keywords: Unchanging graphical representations, virtual world, significant investments, future researches, innovation, interactive visualization

INTELLIGENT BORDER SECURITY SYSTEM

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ABSTRACT

This project aims to create an intelligent border security system that can detect, classify, and track unauthorized border crossings using a combination of sensors, cameras, and AI algorithms. Our project will use machine learning algorithms for object detection and classification to differentiate between humans, animals, and vehicles. The proposed system will be equipped with facial recognition technology to identify individuals who have previously violated border security protocols. The system's intelligence will be enhanced by incorporating deep learning algorithms that can identify suspicious behavior and notify border security officials of potential threats. The proposed system will be powered by a cloud-based platform, which will enable the system to access vast amounts of data and perform real-time analysis of the collected data. The data collected will be stored in a centralized database, enabling the system to identify patterns and trends that could be used to optimize the border security process. The proposed intelligent border security system using artificial intelligence and machine learning will enhance the efficiency and effectiveness of the border security process, improve national security, and contribute to maintaining a secure and peaceful society.

Keywords :border security system, artificial intelligence, machine learning

SIGN LANGUAGE WITH FLEX SENSOR USING TEXT AND VOICE OUTPUT

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ABSTRACT

This project describes the development of a sign language translator that converts sign language into speech and text by using wearable device. The system is working on a glove based device which will be used for conversion of sign language into speech. The basic system consists of a two parts; sign language recognition and conversion . The sign language glove consist of a simple hand gloves fixed with flex sensors. Main goal of the system is to convert hand gestures to auditory speech for communication between deaf/dumb and normal people. Hence, we make a simple prototype by taking some of those gesture and convert it into an audio and visual form so that the normal people can understand the mute and deaf easily.

Keywords: fixed with flex sensors, wearable device, sign language glove

ELEVATOR STATUS MONITORING SYSTEM

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ABSTRACT

Elevator status monitoring systems are an essential aspect of modern buildings, ensuring the safety and convenience of people who use elevators. Such systems track and analyze elevator operations, identify malfunctions, and alert maintenance teams to prevent downtime and ensure the elevator's smooth operation. This paper proposes an elevator status monitoring system that uses modern IoT technology to ensure reliable, safe, and efficient elevator operation. This system uses multiple sensors and IoT-enabled devices to monitor various parameters such as elevator speed, direction, and door status. These sensors and devices send real-time data to a centralized cloud - based platform, where data is processed, analyzed, and stored. The system's analytical algorithm identifies patterns, detects anomalies, and sends alerts to maintenance teams to prevent downtime and minimize risks. The parameters of the lift status monitoring system are extremely adjustable and can be altered to meet the needs of a particular building. The system's dashboard offers facility managers and technicians a user-friendly interface for tracking and managing lift status. It offers insightful information about how lifts function, helps to spot potential dangers and guards against serious failures. Hence, the proposed system's benefits include improved safety, increased uptime, reduced maintenance costs, and enhanced tenant satisfaction. By providing real-time data and insights, the system helps to build owners and facility managers make informed decisions regarding elevator operations, maintenance, and replacement.

Keywords: Improve safety, Insightful information, Spot potential dangers, Elevator reduce maintenance costs, Alert maintenance teams.

ROBOT PROCESS AUTOMATION ICETET23-CSE 43

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ABSTRACT

The robotization of mechanized processes has been experiencing a rising example of interest in late times. Regardless, by far most of composing depicts simply speculative foundations on RPA or current result ensuing to executing RPA in unambiguous circumstances, especially in finance and reexamining. This paper presents an exact arranging concentrate on completely plan on examining the current status of-the-specialty of RPA and recognizing existing openings in both, sensible and current composition. As a matter of some importance, this study presents an all around examination of the 54 fundamental assessments which formally portray the current status of the art of RPA. These fundamental assessments were picked due to the main time of the exact review. Likewise, taking into account the RPA study performed by Forrester, this paper reviews 14 of the imperatively business instruments of RPA, considering a portrayal structure described by 48 functionalities and surveying the consideration of all of them. The delayed consequence of the survey reasons that there are certain times of the RPA lifecycle that are at this point chose the post. Anyway, the Examination stage isn't covered in numerous contraptions. The shortfall of motorization in such a phase is generally reflected by the deficiency of imaginative responses for look for the best candidate patterns of a relationship to be motorized. Finally, a couple of future direction and troubles are presented.

Keywords: RPA Lifecycle, Robotization

BLOCKCHAIN

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ABSTRACT

Blockchain is a distributed ledger technology that makes it possible to transmit data and assets securely and transparently without the use of middlemen. The decentralized digital money known as Bitcoin is based on this technology. A digital asset called bitcoin is employed as a store of value and a medium of trade. It controls the generation of new units and secures transactions using cryptographic methods. Immutability, transparency, and decentralization are three of the main characteristics of blockchain technology. Data on the blockchain cannot be changed or removed after it has been recorded, which is referred to as immutability. Transparency refers to the ability of all network users to view and validate transactions. Decentralization, which refers to the network's lack of central control, makes it more resilient to censorship and hacking. Bitcoin runs on a peer-to-peer network that enables users to interact directly with one another without the involvement of middlemen like banks. A network of nodes known as miners verifies and records transactions on the blockchain. The network rewards miners for participating by issuing new bitcoins and charging transaction fees. Due to its connection to unlawful activity and its erratic price swings, bitcoin has generated criticism. However, the technology that underpins it has the potential to transform sectors including finance, supply chain management, and voting systems.

Keywords: Blockchain, Bitcoin, Public and private keys, Cryptography, Transparency, Decentralization, Node, Miners, Incentivization, Controversy, Volatility, Finance, Supply chain management, Voting systems.

CLASSIFICATION OF CYBER THREAT USING MACHINE LEARNING MODELS IN SUPPLY CHAIN MANAGEMENT

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ABSTRACT

Cyber Supply Chain(CSC) system is complex which involves different sub-systems performing various tasks. Security in supply chain is challenging due to the inherent vulnerabilities and threats from any part of the system can be exploited at any point within the supply chain. This can cause a severe disruption on the overall business continuity. Therefore, it is paramount important to understand and predicate the threats so that organization can undertake necessary control measures for the supply chain security. Cyber Threat Intelligence (CTI) provides an intelligence analysis to discover unknown to known threats using various properties including threat actor skill and motivation, Tactics, Techniques, Procedure (TTP), and Indicator of Compromise (IoC). This paper aims to analyse and predicate threats to improve cyber supply chain security. We have applied Cyber Threat Intelligence (CTI) with Machine Learning (ML) techniques to analyse and predict the threats based on the CTI properties. That allows to identify the inherent CSC vulnerabilities so that appropriate control actions can be undertaken for the overall cybersecurity improvement. To demonstrate the applicability of our approach, CTI data is gathered and a number of ML algorithms, i.e., Logistic Regression (LG), Support Vector Machine (SVM), Random Forest (RF) and Decision Tree (DT), are used to develop predictive analytics using the Microsoft Malware Prediction dataset. The experiment considers attack and TTP as input parameters and vulnerabilities and Indicators of compromise (IoC) as output parameters. The results relating to the prediction reveal that Spyware/Ransomware and spear phishing are the most predictable threats in CSC. We have also recommended relevant controls to tackle these threats. We advocate using CTI data for the ML predicate model for the overall CSC cyber security improvement.

Keywords : Logistic Regression (LG), Support Vector Machine (SVM), Random Forest (RF) and Decision Tree (DT)

PLACEMENT RECRUITMENT SYSTEM IN ENGINEERING COLLEGES

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ABSTRACT

Placement recruitment system is a webbased application developed in the windows platform for the training and placement department of the college in order to provide the details of its students in a database for the companies to their process of recruitment provided with a proper login. The Placement recruitment system contains all the information about the students. The system stores all the personal information of the students, like their personal details, their aggregate marks, their skill set and their technical skills that are required in the CV to be sent to a company. The Placement recruitment system is an online application that can be accessed throughout the organization and outside as well with proper login provided. This system can be used as an application for the TPO of the college to manage the student information with regards to placement.

Keywords: Placement Recruitment, TPO

SANITY - ANDROID APPLICATION FOR DEMENTIA PEOPLE

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ABSTRACT

Dementia is not a disease, the word used to describe “loss of memory, thinking capacity, or decision-making ability that interferes with performing daily tasks”. Around 55 million individuals worldwide have dementia, and more than 60% of them reside in low and middle income nations. It is anticipated that this figure will increase to 78 million in 2030 and 139 million in 2050 due to the fact that the no. of older people in the population is rising in almost every country. Sanity is health care software application designed for people with dementia symptoms and keep it away from getting worse, as even though dementia cannot be cured. The application goal is to make daily tasks easier for those with dementia and to reduce the rate of memory loss. This helps in reminding the daily medications, physical activities, doctor appointments. This application also has access to brain training games and family tree to remember and maintain relations.

Keywords : Dementia, Sanity, daily medications

DEEP SUPERVISION AND HIGH-PERFORMANCE FOR SKIN LESION CLASSIFICATION COLOUR INVARIANT REPRESENTATION LEARNING MODEL

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ABSTRACT

Dermatology is one of the most unpredictable and difficult fields to diagnose due to its complexity. In the field of dermatology, many times extensive tests are to be carried out so as to decide upon the skin condition the patient may be facing. The time may vary from practitioner to practitioner. This is also based on the experience of that person. So, there is a need for a system that can diagnose skin diseases without any of these constraints. We propose an automated image -based system for the recognition of skin diseases using machine learning classification. Many skin diseases have highly similar visual characteristics, which adds more challenges to the selection of useful features from the image. The accurate analysis of such diseases from the image would improve the diagnosis, accelerate the diagnostic time, and lead to better and more cost-effective treatment for patients. This existing system will utilise computational techniques to analyse, process, and relegate the image data based on various features of the images. Skin images are filtered to remove unwanted noise and also processed for enhancement. Feature extraction using complex techniques such as convolutional neural networks (CNN) is used to classify the image based on the algorithm of the SoftMax classifier and obtain the diagnosis report as an output. In this paper, an automatic facial skin defect detection and recognition system is proposed. The system automatically locates the facial region and extracts regions of interest. A ResNet-based classifier is then used to classify the potential defects into spot acne and normal skin. In this research, we have tried to develop a prototype to detect skin diseases using neural networks. In the choice of neural networks, we have chosen ResNet, which is a convolutional neural network.

Keywords : ResNet-based classifier, acne, Soft Max Classifier

CYBERBULLYING IN SOCIAL NETWORKING SITES USING DEEP LEARNING MODEL

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ABSTRACT

Cyberbullying is bullying that takes place over digital devices like cell phones, computers, and tablets. Cyberbullying can occur through SMS, Text, and apps, or online in socialmedia, forums, or gaming where people can view, participate in, or share content. Cyberbullying includes sending, posting, or sharing negative, harmful, false, or mean content about someone else. It can include sharing personal or private information about someone else causing embarrassment or humiliation. The content an individual share online – both their personal content as well as anynegative, mean, or hurtful content – creates a kind of permanent public record of their views, activities, and behaviour. To avoid or detecting cyberbullying attacks, many existing approaches in the literature incorporate Machine Learning and Natural Language Processing text classification models without considering the sentence semantics. The main goal of this project is to overcome that issue. This project proposed a model LSTM - CNN architecture for detecting cyberbullying attacks and it used word2vec to train the custom of word embeddings. This model is used to classify tweets or comments as bullying or non-bullying based on the toxicity score. LSTM networks are well-suited to classifying, processing and making predictions based on time series data, since there can be lags of unknown duration between important events in a time series. A convolutional neural network (CNN) is a type of artificial neural network and it has a convolutional layer to extract information by a larger piece of text and by using this model LSTM-CNN achieve a higher accuracy in analysis, classification and detecting the cyberbullying attacks on posts and comments.

Keywords : Cyberbullying, LSTM - CNN

SMART DECISION SUPPORT SYSTEM FOR AUTOIMMUNE AND INFLAMMATORY DISORDERS AND NUCLEAR MEDICINE DIAGNOSIS

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ABSTRACT

In the realm of nuclear medicine, the practice of precision medicine is expanding quickly. For the diagnosis and treatment of many autoimmune and inflammatory-related disorders, it offers a tailored approach. The accuracy and effectiveness of decision-making may be significantly increased in the field of nuclear medicine by using Intelligent Decision Support Systems (IDSS). In particular, the field of nuclear medicine and autoimmune and inflammatory-mediated disorders are the focus of this paper's complete discussion of IDSSs in precision medicine. The notion of precision medicine and its significance in the field of nuclear medicine are covered at the outset of the study. Then, it describes the various IDSSs that are currently available on the market and how they are used in precision medicine. The paper also highlights the benefits and limitations of IDSSs in precision medicine and discusses the future trends and challenges in this field.

Keywords: Intelligent Decision Support Systems (IDSS)

RISE OF AUGMENTED REALITY AND VIRTUAL REALITY

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ABSTRACT

Augmented and virtual reality (AR/VR) technologies have emerged as powerful tools for enhancing student engagement and learning outcomes in the classroom. These technologies enable students to explore complex concepts in a more immersive and interactive way, providing a more dynamic and engaging learning experience. AR/VR technologies can be used in a variety of educational contexts, from K-12 classrooms to higher education and professional training. In science and engineering, for example, AR/VR can be used to create interactive 3D models of complex structures and systems, allowing students to explore and manipulate them in a hands-on way. In language learning, AR/VR can be used to provide immersive language experiences that simulate real-world conversations and interactions. The potential of AR/VR in education is particularly significant for students who may not have access to traditional educational resources or who may struggle with traditional teaching methods. These technologies can help bridge the gap between classroom instruction and real-world experience, providing students with a more tangible and memorable learning experience. Despite the potential benefits of AR/VR in education, there are also challenges to be addressed. For example, access to AR/VR technology and the necessary hardware and software can be a barrier for many schools and educators.

Keywords: Augmented and Virtual Reality technology, 3D models, .

THE RISE OF NETWORK AS A SERVICE

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ABSTRACT

Network as a Service (NaaS), a rapidly expanding paradigm in the realm of cloud computing, allows consumers to subscribe to networking services. The demand for enterprises to be flexible and responsive to shifting market conditions while lowering the expenses involved with managing their own networking infrastructure is what is causing the emergence of NaaS. Without having to spend money on pricey hardware or software, NaaS enables organisations to grow their networking capabilities as needed. The main factors influencing the expansion of NaaS will be examined in this abstract, including the advantages it provides to businesses, the technological developments that have facilitated its development, and the difficulties that must be faced in order for it to reach its full potential. The presentation will also cover how NaaS might affect networking and cloud computing in the future and what it means for service providers and companies alike.

Keywords: Networking Services, security.

AN EFFICIENT DISASTER RECOVERY APPROACH IN CLOUD WITH SECURE ENCRYPTION

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ABSTRACT

Cloud based disaster recovery approach is important in case of a natural disaster where there is a high risk of losing access to computers and data center. It is important to consider data availability, backups and redundancy as component of the emergency management software selection process. This method can determine whether system performance achieves the recovery point objective or not. It is important to consider data availability, backups and redundancy as component of the emergency management software selection process. A secure RSA Encryption can be implement to provide data security.

Keywords: Cloud based disaster recovery, redundancy

BRAIN STROKE CLASSIFICATION AND ANALYSING THE STAGE USING DEEP LEARNING

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ABSTRACT

Brain computed tomography (CT) is commonly used for evaluating the cerebral condition, but immediately and accurately interpreting emergent brain CT images is tedious, even for skilled neuroradiologists. Deep learning networks are commonly employed for medical image analysis because they enable efficient computer-aided diagnosis. This study proposed the use of convolutional neural network (CNN)-based deep learning models for efficient classification of strokes based on unenhanced brain CT image findings into normal, hemorrhage, infarction, and other categories. The included CNN models were CNN-2, VGG-16, and ResNet-50, all of which were pretrained through transfer learning with various data sizes, mini-batch sizes, and optimizers. Their performance in classifying unenhanced brain CT images was tested thereafter.

Keywords: Computed Tomography(CT), convolutional neural network.

ENCRYPTION WITH KEYWORD SEARCHING IN CLOUD EMAIL

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ABSTRACT

Information search and document retrieval from a remote database requires submitting the search keyword to the database holders. For the protection of data privacy, sensitive data has to be encrypted before outsourcing, which makes effective data utilization a very challenging task.

Searchable encryption schemes allow users to securely search over encrypted data with the help of keywords. To enhance searching in terms of efficiency and fastness, a multi-key word search technique can be adopted to retrieve a corresponding document from cloud. By introducing the keyword weight to the search protocol design, the search results will be more in line with the user's demand. To better express the relevance between the query and files, we introduce the TF-IDF rule into our design. In proposed approach utilize KNN classification approach for index finding process. Here propose a survey on a secure search scheme supporting single-keyword or multi-keyword ranked search over encrypted cloud data. Proposed scheme is not only capable of expressive multi-keyword search, but also significantly more efficient than existing schemes built in composite-order groups. We design a new central keyword semantic extension ranked scheme (CKSER scheme) based on the keyword weight and multi-keyword ranked search. By choosing the central keyword of the query to extend (not all keywords), our scheme makes a good tradeoff between the search functionality and efficiency.

Keywords: Document retrieval, KNN classification and CKSER scheme.

UNLOCKING THE WORLD WITH ULTRASONIC GLASS: A GUIDE FOR BLIND PEOPLE

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ABSTRACT

Ultrasonic glass for blind works by emitting high frequency sound waves that bounce off objects in the user's surroundings. These waves are then picked up by sensors embedded in the glasses, which convert them into visual or auditory feedback. These glasses can also include a additional features such as water sensors, pit sensors, and GPS systems. The glasses can be customized to suit the user's needs, with options such as voice commands, haptic feedback, or visua ldisplays. They are also lightweight and comfortable to wear, making them an ideal solution for everyday use. By providing real-time information about obstacles and hazards, it offers increased safety and independence, and has the potential to improve accessibility in public spaces.

Keywords: Pit sensors, GPS system,water sensors.

MARINE WATER QUALITY ASSESSMENT

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ABSTRACT

Water pollution is a serious problem for the entire world. It threatens the health of well-being of humans, plants and animals. As the world became more industrial and smaller due to communications and trade, accidental and purposive hazardous dumping has contributed to the problem of marine and estuary pollution. All water pollution is dangerous to health of living organisms, sea and river pollution can be specially detrimental to the health of humans and animals. Environmental pollution is currently a major concern due to unorganized and increased industrialization and urban development. A vast number of chemicals as well as large amount of nutrients are released into the environment daily and transported via rivers and lakes into estuarine and marine environment. Coastal zones are very attractive regions for human settlement, but anthropogenic activities may have significant environmental impact on these sensitive natural systems. Therefore, there is a need to monitor environmental changes and test for toxic effects which is due to various chemicals released daily into the environment. Sooner or later most of these compounds dissolved in water and transported to the sea causing very adverse to marine ecosystem. Today many countries have strategies to document and determine the potential impacts of new chemicals and wastewater on the marine ecosystem. However, necessity rose among environmental authorities to develop more cost effective and short-term chemical and biological test methods and to improve the monitoring process. So, the developed methodologies can be used to detect and predict potential impacts of pollutants on different functions of the ecosystems. An aquatic environment accumulated many pollutants such as heavy metals are partly of natural origin, but large amount is discharged by human activities. The aim of the present work is to determine the concentrations of various pollutants along the east coast of Tamil Nadu using physical, chemical and biological analysis in marine water. The analysed results were compared with the IS Standards and recommendations were suggested.

Keywords: Pollution, Coastal zones and short term chemicals.

SMART POWER TRACK: REAL TIME ELECTRICITY USAGE MONITORING

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ABSTRACT

Energy is very important in the entire evolution process and the survival of the world. Electrical energy is one among them. The demand for an increase in electrical energy hurts the environment and increases pressure on our government. This energy demand in our country is increasing exponentially. Energy conservation is the best solution for rising energy demand. The conservation of energy reduces energy consumption by using the best energy service to minimize the amount of power which is consumed by houses or small industries. We are developing an application for monitoring the usage of electricity and its cost of it. It is a software application that can be installed on mobile phones or tablets, which allows users to monitor and track their electricity usage and their cost. It also monitors the electricity used by individual appliances. This helps us to make sure that people pay reasonable rates and do not overspend on electric charges. This type of application typically uses data from monitoring devices to provide real-time or historical information about electricity consumption. It also allows user to set usage goal, track their progress, and receive alerts when usage and cost exceeds a certain threshold. So people can consider reducing the cost while sticking to services that they are already using. The process of reducing monthly electricity expenses starts by monitoring them. Then comes the analysing part where people can see how energy is consumed around home compared to monthly fees, notice what they pay for the most, and understand where they overpay. As a result, people are aware and able to reduce the usage of power as well as can reduce costs.

Keywords: Internet of thing (IOT) technology, Power usage detection, cost-saving.

CONTEXTUAL AI MESSAGES WHILE DRIVING

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ABSTRACT

Artificial intelligence based informing for getting texts while driving. Driving can become more secure and less diverted thus. However long they keep their eyes out and about, it can likewise assist drivers with remaining associated. The recommended framework investigat ionthe setting of approaching messages and decides their materialness to the driver's current occupation of driving utilizing AI and regular language handling strategies. Drivers may also customize their message insight with logical simulated intelligence based informing. They have the choice of setting up a framework that will naturally answer to messages or decide to get only the most pivotal cautions. This can help drivers in keeping up with command over their messagingexperience and forestalling undesirable distractions.Despite the various advantages of context oriented artificial intelligence based informing for getting texts while driving. Context oriented man-made intelligence messages while driving can be especially valuable for long excursions, new courses, or while driving in testing conditions. By giving drivers exceptional and significant data, they can pursue informed choices and make a proper move to stay away from mishaps.

Keywords: Artificial intelligence, forestalling.

CONTEXTUAL AI BASED MESSAGING WHILE DRIVING

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ABSTRACT

Using a phone while driving poses a serious safety. Sending text message while driving is ranked as the most dangerous among all distractive activities. To reduce this distractive activities, contextual ai-based messaging while driving can be used to provide personalised replies for incoming message. Our idea is to implement ai based software application in the user's mobilephone which we integrate it with contacts and other needed applications of the user. If an incoming text message is detected, the ai can recognize the sender and the content of the message. This ai will use natural language processing system (NLP) to separate the messages sent into categories such as sensitive, urgent, emergency or as repeated message. Received messages are converted into its corresponding data values after categorizing. Then these data values are used as input for our machine learning model which we already trained with sample data. Based on this output given by our ml model, the ai can provide a modified response that is appropriate for the situation. For example, if the sender is a friend, the ai could send a message that reads "I'm driving right now but I'll respond when I can". Case-based reasoning (CBR) is another feature of our ai application which is used to gain insight from past experiences. It works by analysing past data and making predictions based on what has worked in similar situations in the past. A total of 1,997 road accidents occurred in 2021 is due to the use of mobile phones while driving, according to the ministry of road transport and highways. Our application can be used to minimize these accidents.

Keywords: Natural Language Processing system and Case based reasoning

CROP RECOMMENDATION USING AI AND ML

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ABSTRACT:

Artificial intelligence is a branch of computer science which deals with the stimulation of intelligent behavior in machines. With the help of AI, machines imitate human behavior, which aids the society in many ways. In a technologically developing society AI and automation play a very important role. AI is used in many different fields like healthcare, business, education, astronomy, research, weather prediction and so on. AI has subsets like machine learning and natural language processing. These subsets have a lot of algorithms which can be used to solve some of the modern day problems. Agriculture is a field which has had drastic changes and developments because of AI. Agriculture plays a major role in the Indian economy. India is a largest producer of a variety of agricultural products like wheat, rice, sugar and so on. Soil acts as a canvas for agriculture. Soil fertility determines the yield of the crop. Soil fertility depends on factors like type of soil, climatic condition and minerals present in soil. Crop selection was done by farmers who had hands-on experience, but nowadays farmers are unable to choose the right crop, which has led to bad yield. Here machine learning can be used to give a solution. A crop recommendation system can be built using machine learning algorithms. In this system a model is built which predicts the right crop that needs to be planted in a particular field based on some inputs like the time of the year, area, soil type, climatic conditions and so on.

Keywords: Machine learning, Artificial Intelligence and weather prediction.

A STRUCTURED REVIEW ON ARTIFICIAL INTELLIGENCE IN HEALTHCARE

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ABSTRACT

There is no universally accepted or defined definition for Artificial intelligence. Artificial intelligence refers to computing technology that resembles human intelligence namely understanding, learning, adapting, predicting, reasoning, classifying and interaction. Recently, artificial intelligence (AI) has made rapid advancements in terms of hardware implementation, software algorithms, and applications across a wide range of industries. In recent years, artificial intelligence (AI) has become a potent instrument in healthcare with the potential to completely transform the sector. Large-scale data analysis, pattern recognition, and prediction capabilities of AI algorithms enable more rapid and precise diagnosis, personalized treatment plans, and better patient outcomes. This work examines the different uses of AI in healthcare that includes medication development, electronic health record analysis, medical imaging analysis, and personalized medicine. In medical imaging artificial intelligence plays a significant role in optimizing workforce and taking more scans in short period of time for better treatment. In terms of diagnosing diseases AI has demonstrated promising outcomes. The most precise AI model is used in John Radcliff Hospital in Oxford which analyses the echocardiography scans and detects the heart function and coronary heart diseases. AI tools such as Machine Learning algorithms, NLP are used to predict the psychotic behavior by analyzing the speech patterns. AI has a wide range of applications in the medical field. We will also look at the difficulties and moral issues surrounding the application of AI in healthcare, such as data privacy, prejudice, and transparency. Overall, AI has the power to revolutionize healthcare by increasing effectiveness, lowering expenses, and improving patient outcomes. However significant thought must be taken to guarantee that AI is used in a responsible and ethical manner.

KeyWords: Artificial intelligence, Machine learning, Healthcare, Medication development.

ONLINE CRIME REPORTING SYSTEM IN PYTHON

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ABSTRACT

Crime is a part of illegal activities in human life. It is quite obvious that the rate of crimes is increasing day by day in all societies across the world, but we do believe that there is a lot which can be done by both the governments and the individuals to reduce the crimes in communities. The rise of population and complex society rises the range of anti-social conducts that must be restricted by the government through the military and different organizations particularly the Police Force. There are many current crime management systems which faces several difficulties, as there is no means to report crime instantly other than phone calls, messaging or face-to-face compliant filing. Hence, we have proposed an online crime reporting system which allows the user to file complaints or missing reports and keep a track of it. There are 3 categories that a user can file; Complaint, Crime Report and Missing Report and can see all the status of what action has been taken by the admin. To file any of the above 3 complaints, the user should register in to the system and provide his right credentials to file them. The crime reporting system project also allows other users who doesn't want to register but can check the crimes happening at his/her or any other area, has to just provide the pin code and in return the system displays the list of crimes if any filed. The offline i.e. the unregistered user can also take advantage of checking the missing person details, but he/she is refrained from getting complaints done by the users. The Front End of the crime reporting system is done using Android Studio and SQL serves as a backend to store books lists and inventory data. The system, has both the user as well the Admin Part, the role of admin is to just check all the 3 modules or categories and update their status likewise. This system helps the users in tracking any report filed to the law and take an advantage of reporting any complaint from anywhere bringing the whole system online.

Keywords: Android Studio and SQL, reporting.

SALES FORECASTING SYSTEM FOR RETAILERS USING DEEPLARNING

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ABSTRACT

Demand forecasting is one of the major key aspects for successful supermarkets. To say in particular, properly forecasting future sales of menu items will allow for a precise ordering of grocery items. This will ensure the low level of pre-consumer food waste, while this is critical to profitability of departmental stores. Hence, this paper is interested in studying future values of daily sold quantities of given menu items. The time series show multiple trend changes, strong seasonalities, data gaps and also outliers. This study proposed a forecasting approach that is based on data retrieved from point-of-sale systems and then allows for straightforward human interpretation. It also proposed two generalized models to predict future sales. In an extensive evaluation, data set is taken which comprises of super market sales data. The main motivation of doing this study is to provide a sales prediction model to predict with supermarket data. Further, this work is aimed towards identification of the best classification algorithms for sales analysis. In this study, classification algorithms such as Naive Bayes classification is addressed and used for developing a prediction system to analyze and predict the sales volume. Moreover, SVM, KNN and CNN are used in proposed system to yield better results.

Keywords: Deep Learning, Sales Prediction, Naive Bayes, Support Vector Machine, K-Nearest Neighbour, Convolutional Neural Network.

PREDICTION OF ASSURANCE AND REPLACEMENT COST FOR AUTOMOBILE INDUSTRY USING CONVNET

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ABSTRACT

Automobile assurance processing using images in a critical situation with lot of variation in automation. In Automobile industry, it's hard to get accuracy. As it's requiring a huge dataset to give more accuracy. By using the Transfer Learning Method and Image Pre-processing Technique to overcome time delay. Here we use ConvNet algorithm, which apply different layers to segmented the data and predict more accuracy. By collecting more dataset, the result will be predicted more accurately and the time will be reduced by pre training the dataset.

Keywords: Transfer Learning Method and Image Pre-processing Technique.

LEVERAGING BLOCK CHAIN TECHNOLOGY FOR UAV APPLICATIONS

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ABSTRACT

The breakthrough of blockchain technology has facilitated the emergence and deployment of a wide range of unmanned aerial vehicles (UAV) networks-based applications. Yet, the full utilization of these applications is still limited due to the fact that each application is operating on an isolated blockchain. Thus, it is inevitable to orchestrate these blockchain fragments by introducing a cross-blockchain platform that governs the inter-communication and transfer of assets in the UAV networks context. In this paper, we survey the literature on the state-of-the-art cross blockchain frameworks to highlight the latest advances in the field. We also provide an up-to-date review of blockchain-based UAV networks applications. Based on the outcomes of our survey, we introduce a spectrum of scenarios related to UAV networks that may leverage the potentials of the currently available cross-blockchain solutions. Finally, we identify open issues and potential challenges associated with the application of a cross-blockchain scheme for UAV networks that will hopefully guide future research directions.

Keywords: Unmanned Aerial Vehicles, block chain technology and cross block chain solutions.

DIGITAL FORENSICS : AN INVESTIGATION ON CYBERBULLYING ACTIVITIES USING MACHINE LEARNING ALGORITHM

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ABSTRACT

Cyberbullying has become a growing concern in today's society, with more and more people turning to the internet to harass and intimidate others. Digital forensics is an essential tool for investigating cyberbullying activities, as it allows for the collection and analysis of digital evidence. However, traditional digital forensics techniques can be time-consuming and require a significant amount of human effort. In this paper, we propose the use of machine learning algorithms to aid in the investigation of cyberbullying activities. By training these algorithms on a dataset of known cyberbullying incidents, we can create a predictive model that can automatically classify new instances of cyberbullying. This can significantly reduce the time and effort required for investigations, allowing for a more efficient response to cyberbullying incidents. The challenges associated with using machine learning for cyberbullying detection, including the need for high-quality training data and the potential for bias in algorithms. We also explore the various types of digital evidence that can be used in cyberbullying investigations, such as social media posts, emails, and instant messages. We present a case study in which we apply our proposed approach to a real-world cyberbullying incident. Our results show that the machine learning algorithm was able to accurately identify the cyberbullying activity with a high level of precision, demonstrating the potential of this approach for improving the efficiency and effectiveness of cyberbullying investigations.

Keywords: Digital forensics, Cyberbullying and machine learning.

VECHICAL PARKING SYSTEM WITH PRIVACY PREVENTION USING SQL SERVER

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ABSTRACT

The main aim of this project is to reduce the time for searching the parking space in the city. The web site is created to search the parking space while driving also it is to search the space in a new place. The OTP will provide to the e-mail instead of bill.

Keywords: SQL server, parking space.

QUANTUM COMPUTING

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ABSTRACT

A rapidly developing area of study and technology called quantum computing holds the potential to completely alter the way we now use computers. Quantum computing uses quantum bits, or qubits, which can be in numerous states at once in contrast to classical computing, which uses bits that can only be in one of two states (0 or 1). Due to this characteristic, quantum computers are able to do some computations exponentially quicker than conventional computers, which opens up the possibility of using them for a variety of tasks such as drug discovery, materials science, and cryptography. Though many fundamental concerns regarding quantum computing remain unanswered, it is difficult to construct practical quantum computers because of problems like decoherence and noise. Despite these difficulties, there has been a lot of study and investment made in the field of quantum computing because of the prospective advantages, making it an exciting area for future innovation and discovery. Quantum computers can take advantage of quantum entanglement, a phenomenon where two particles can become connected in such a way that the state of one particle affects the state of the other, even if they are separated by a great distance. While quantum computing has the potential to revolutionize certain fields, it is not useful for all types of problems. In particular, there are many problems that can be solved efficiently using classical computers, and quantum computers are not likely to provide significant speedup for these problems.

Keywords: Qubits, Cryptography, Quantum computers, Innovation.

NETWORK SECURITY

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ABSTRACT

Network security refers to the practice of protecting computer networks from unauthorized access, use, disclosure, modification, or destruction. It involves various technologies, policies, and practices that safeguard networks from various threats, such as malware, phishing, hacking, and other cyberattacks. Network security is critical for ensuring the confidentiality, integrity, and availability of information transmitted over the network. This provides brief overview of network security, its importance, and some of the key technologies used to secure computer networks, such as firewalls, intrusion detection and prevention systems, virtual private networks, and encryption. Network Security Measures. The main goal of network security is to maintain the confidentiality, integrity, and availability of network resources and data. This can be achieved through a combination of hardware and software technologies, as well as best practices such as access control, encryption, firewalls, intrusion detection and prevention systems, and vulnerability management. Effective network security is essential for protecting sensitive information, preventing data breaches, and ensuring business continuity. Network security is a critical aspect of modern computing systems, as it protects valuable data and resources from various types of cyberattacks. This paper provides an overview of network security, including the primary threats that networks face and the techniques used to mitigate them. We discuss different types of attacks, such as Denial-of-Service (DoS) attacks, malware, and network eavesdropping, and explore various defense mechanisms, including firewalls, intrusion detection and prevention systems, and encryption protocols. Additionally, we cover the importance of access control, authentication, and authorization in maintaining network security. Finally, we examine the challenges of maintaining network security, such as the increasing sophistication of attackers and the need for constant monitoring and updating of security measures. Overall, this paper provides a comprehensive understanding of network security, including the various threats and defense mechanisms that organizations can implement.

Keywords: Network Security, Confidentiality, Virtual Private Network, Intrusion Detection and Prevention

DESIGN AND DEVELOPMENT OF HUMAN IDENTIFICATION AND OBSTACLE DETECTION SYSTEM FOR BLIND USING MACHINE LEARNING

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ABSTRACT

Vision is one of the most important human senses, and it plays a critical role in understanding the surrounding environment. However, millions of people in the world are experiencing visual impairment. They are facing difficulties in their daily navigations in surroundings. In this project, deep learning based Faster Region-Convolutional Neural Network (Faster R-CNN), to detect and recognize human and objects in surroundings.

Keywords: Faster Region-Convolutional Neural Network, machine learning.

HISPOTHATICAL IMAGES BASED BREAST CANCER DETECTION SYSTEM

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ABSTRACT

Breast cancer is the leading cause of cancer death. India has witnessed 30% of the cases of breast cancer during the last few years and it is likely to increase. Breast cancer in India accounts that one woman is diagnosed every two minutes and every nine minutes, one woman dies. The chances of correct treatment and survival are greatly increased by early diagnostics, but this process is tedious and often leads to a disagreement between pathologists. Early detection and diagnosis can save the lives of cancer patients. Issues such as technical reasons, which are related to imaging quality and human error have increased the misdiagnosis of breast cancer in radiologists' interpretation. In the effort to overcome such restrictions, CAD systems are developed to automated breast cancer detections and classify benign and malignant lesions. Computer-aided diagnosis systems have the potential to improve diagnostic accuracy. By A Computer Aided Diagnosis system, Breast cancer can be detected as early as possible. By Early prevention the chances of death can be reduced. Our Project presents a method to detect breast cancer by employing techniques of Machine Learning. The carried out an experimental analysis on a dataset to evaluate the performance. The proposed method has produced highly accurate and efficient results when compared to the existing methods. This Project utilizes the CNN algorithms for the High Accuracy in the results and the prediction of cancer Affected percentage. Overall, this project seeks to the early detection of breast cancer by Hypothetical images with high accuracy using CNN and overcome the drawbacks in the existing Systems.

Keywords: CNN algorithm, Hypothetical images and machine learning.

DIAGNOSING AND PREDICTING DISEASE USING ARTIFICIAL INTELLIGENCE

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ABSTRACT

This article reviews the application of AI techniques in the medical field for the diagnosis and prediction of various diseases. It examines the use of Machine Learning (ML) and Deep Learning (DL) algorithms to automate forecasting and diagnosis processes, with a focus on Support Vector Machine (SVM) and Convolutional Neural Networks (CNN) as the most widely used methods. It also discusses the successes of AI in diagnosing and predicting cancers, heart, lung, skin, genetic, and neural disorders, as well as its existing challenges and limitations.

Keywords: Support Vector Machine, Convolutional Neural Networks and Deep Learning.

BRAIN STROKE CLASSIFICATION AND ANALYSIS USING VGG FRAMEWORK IN DEEP LEARNING

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ABSTRACT

Brain stroke develops as a result of aberrant cell growth and division in the brain. It can be fatal if not recognised quickly and precisely. Some brain cancers are more frequent than others, such as meningioma, glioma, and pituitary tumours. Magnetic Resonance Imaging (MRI) is a medical imaging method that is widely utilised in clinical practice for the diagnosis and treatment of brain cancers. The MR pictures are captured from three distinct angles. These perspectives are known as sagittal, axial, and coronal. Techniques for segmenting brain strokes are essential for stroke detection. Because manual segmentation takes time and is prone to human error, it is useful to apply machine learning approaches that learn the pattern of brain strokes. In this work, it may put a variety of image processing techniques into practice, including grayscale conversion and the extraction of features using a grey level co-occurrence matrix. Utilizing neural network algorithms like the convolutional neural network (CNN) method, the final classification step determines whether or not a person is ill. The outcome of the experiment demonstrates that the suggested CNN can outperform the current machine learning techniques.

Keywords: Convolutional neural network, pituitary tumours and magnetic resonance imaging.

AD DEMAND PREDICTION USING MACHINE LEARNING AND STREAM LIT WEB APP

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ABSTRACT

In the cutting edge period business knowledge (BI) plays a vital part in articulating a methodology and going to address lengths in view of information.AI predicts future requests of undertakings. Request is one of the principal dynamic assignments of a venture. For request first, crude deals information is gathered from the market, then as per information, the future deal/item requests are determined.

Keywords: Business knowledge, machine learning and artificial intelligence.

INVENTORY MANAGEMENT SOFTWARE FOR EFFICIENT STORAGE AND TRACKING OF HARDWARE COMPONENTS

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ABSTRACT

This research paper discusses a web-based software inventory model where many organizations having to go online, they need to enlarge their inventory with computing resources to cope with their competitors. As the organizations grow bigger they need more computing resources and eventually have to take care of their own inventory. Maintaining an inventory of the many computers an organization can have is a tedious task to do manually. Nowadays organizations are spending their financial resources wisely by equipping their employees with hardware that is aimed specifically at their tasks, which is good but makes the task of maintaining records of components used and currently in use a lot more difficult. With the number of computers increasing the probability of a problem with a PC and the frequency of the problem occurring on multiple PCs increases. So we have come up with a solution where the process of detecting the components of the PC and storing it is automated. The data stored can then be viewed in an administrator panel where all the PCs will show with their respective components and also the admin can find the logs of previous changes done to it. The process of managing the inventory now is also done manually but the difference is the place the recorded data is stored, from writing it in ledgers and manually IDing the systems and checking duplicates the data is now stored in an online database accessible from anywhere in the world. Use a software tool to keep track of all the hardware components in use, including the make, model, serial number, and location of each component. The software can also perform the process of monitoring, to track the health of the hardware components, such as temperature, power usage, and performance metrics. This can help identify potential issues before they cause a problem. Our project takes it one step further, it takes the time taking process of manually checking the components of a PC and recording it and, automates it to do the entries process in just a few minutes and also checks the components every time the system boots thus, automating the process of updating the system config and making a change log too. The need for such a system is inevitable in today's world, mainly because of how automation works here. The goal of the study was to investigate how the task can be useful and helped in organizations.

Keywords: Software inventory, hardware components and monitoring system.

ZERO VOLTAGE DERIVATIVE SWITCHING FOR RESONANT CONVERTERS WITH REDUCTION OF RIPPLE

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ABSTRACT

In our project, a dual-frequency control method for regulating the output power in class- E resonant dc–dc converters has been introduced. The usual ON–OFF control or other recently proposed dual-frequency controls, the converter to alternately operate in a high- and a low-power state. The proposed solution has a double advantage: on the one hand, soft-switching capabilities (zero-voltage and zero-voltage-derivative switching) are preserved in both operating states on the other hand, it is possible to reduce to zero the transient time required to switch from one state to the other one. The most straight forward importance is the possibility to increase to very large values the frequency at which the two operating states are switched, up to the same order of magnitude as the main switching frequency of the converter. The additional ripple introduced by the proposed dual-frequency control can be decreased to a negligible value. The line has been confirmed by measurements on a prototype operating between 4 and 8 MHz and in which it has been possible to increase the control frequency up to 500 kHz.

Keywords : Class E converter, dual frequency control, ON-OFF control ,resonant converter.

CLASSROOM AUTOMATION USING IOT AND PIR SENSOR

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ABSTRACT

In this project, will see the Automatic Room Lights using Arduino and PIR sensor, where the lights will automatically turn ON and OFF by detecting the presence of a human. Such Automatic Room Lights can be implemented in classrooms. Where we do not need continuous light but only when we are present. Also, with the help of an automatic room light, fan control system you need not worry about electricity as the lights get automatically off when there is no person. The main aim of the project is to conserve energy this project involves four stages: the power supply stage, the sensor stage, the ESP32 micro controller stage and the switching machine stage. The power supply stage involves the supply of power to the arduino and the sensor. The sensor stage consist the passive infrared sensor which is the core part of the project. It detects the radiated heat energy from a person and converts the energy to an electrical signal which is sent to the arduino for processing. When nobody is detected the power is turned off. the project is also able to control through the app which will be provided to the student.

Keywords : IOT, PIR sensor

AI BASED AIR POLLUTION MONITOTING SYSTEM

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ABSTRACT

The largest issue facing any country is air pollution, which is why we started this initiative. The use of cars, industry ,urbanisation, and other elements that can be dangerous to human health are all contributing to rising pollution levels. An Internet of Things (IoT)-based air quality monitoring system monitors the air quality using the Internet and a web server .We utilise a breadboard, an Arduino UNO, an LCD display, a potentiometer, a resistor, a piezo, and a gas sensor in this project. An alarm will appear when the air quality drops below a particular threshold and there is a high enough concentration of dangerous compounds, such as CO₂, smoking, alcohol, benzene, NH₃, and NO_x. The air quality is shown in PPM on the LCD and Internet, making it exceedingly simple to monitor air pollution. Temperature will be displayed on the system's LCD panel .The system may be put anywhere, but is typically implemented in homes and businesses because those are the places where gases are most common. It sends alarm messages when the system exceeds a certain limit

Key words– Components, formatting, LCD, PPM.

AN IOT BASED DAM WATER MANAGEMENT SYSTEM FOR AGRICULTURE

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ABSTRACT

Water plays an important role in our day to day life in various fields. Introduction of new methods to solve the water- related problems includes adaptive management, remote sensing with the new concepts such as water security, global integration of information, etc. In this paper, we present an Internet of Things (IoT) based dam water management system (IoT-DWM) for reducing the wastage of water. The proposed IoT-DWM consists of various parts such as field sensing section, IoT network section, and dam control section, etc. The real data can be observed through different sensors placed in the agriculture area and updated it in the cloud. The dam controller receives the real data of the particular area and estimates the water requirement. The water requirement will vary depending upon the crop cultivated in that area. The controller considers different parameters such as types of crop in that area, temperature, humidity, and wind speed while estimating the requirement of water. The simulation result shows that the proposed IoT-DWM provides better results, save water in a considerable amount and leads to reduced water scarcity.

Keywords: Dam Water Management, Internet Of Things, Agriculture, Control

ASYMMETRICAL MULTILEVEL INVERTER WITH FEWER SWITCHES AND LESS VOLTAGE STRESS: DESIGN AND REALIZATION

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ABSTRACT

Recent years have seen a proliferation of power converter topologies suitable for a wide range of uses. Multilevel inverters (MLIs) are preferred inverters over conventional two level inverters in medium and high-power systems including the power grid, solar panels, drive systems, active power filters, electric vehicles, wind turbines, and high-voltage direct current transmission lines. Since MLIs produce multilevel voltage, it has a low harmonic profile and virtually no ripple at the output. Traditional inverter topologies are prone to a variety of issues, including multilevel inverters (MLIs) with a large device count, low boosting, and DC voltage imbalance. Cascade connection capabilities of MLIs verify the switches' low stress and EMI, leading to excellent system performance. A new single phase asymmetrical MLI is discussed in this article. This MLI is able to generate 33 levels at the output with fewer components and a lower total standing voltage (TSV) at the switches than previous designs. Because it can accept input from a wide variety of DC sources, the inverter that is being proposed is well suited for use in systems that generate renewable energy and contain a number of different DC sources. An investigation of the stress distribution among the switches helps cut down on the number of high-rated components that need to be used, which in turn helps bring the overall cost of the inverter down. To achieve greater levels, it is possible to extend the topology by connecting additional circuits in series. Through the use of graphical representations, a comprehensive comparison is carried out based on the switches count, DC sources count and TSV, as well as other existing topologies. It is demonstrated that this new topology is both more cost-effective and superior in all respects. The total harmonic distortion (THD) that was determined through simulation and experiment met all of the requirements set forth by IEEE. The aforementioned structure was developed in MATLAB/Simulink, and it was validated in a controlled laboratory setting using actual physical components

Keywords: Multilevel Inverters, Total Harmonic Distortion

DESIGN AND DEVELOPMENT OF IOT BASED ENERGY MONITORING AND CONTROL FOR DOMESTIC APPLICATION

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ABSTRACT

In this study, it was proposed that smart meter be created and tested, enabling users to examine their voltage. Current, and power consumption at any time and from any location using thing speak website and Thing view app. Using mobile short message services users may see the load ON and load OFF. The ability for customers to monitor power consumption in real-time through their energy meter would be quite advantageous. Between the GSM module and energy meter, the primary controller, Arduino UNO served as the connecting device. A GSM module connects the energy meter to the consumer mobile phones. To construct the C programming Arduino Syntax based software, an Arduino UNO is used. The consumer would be able to retrieve the whole data set whenever data set whatever they want from the cloud storage.

Keywords: IOT, GSM module, Arduino UNO

IOT BASED SMART DEVICE FOR WOMEN SAFETY

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ABSTRACT

Women's safety is a significant priority around the world right now. Women encounter a range of scenarios every day, including abuse, assault, rape, and kidnapping, which make them fear leaving their homes. This paper demonstrates how to make a wearable safety device for women using an Arduino microcontroller. The research purpose of the technology is to protect women who are in danger. The module is interfaced with the secure networks and sends an alert via IoT. The device is programmed in such a way that the algorithm is activated as soon as the sensor readings exceed the threshold values. The proposed gadget's main goal is to provide security for women everywhere. As a result, gadget employs cutting-edge technologies such as the Internet of Things (IOT) and the GPS, GSM modules are used to transmit the user's location to the appropriate authorities and saved contacts.

Keywords: GSM modules, IOT, Women

PV OFF-GRID CHARGING STATION FOR ELECTRIC VEHICLE

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ABSTRACT

An energy storage device is required to meet the energy demand and improve the sustainability of the charging station. Thereby, a system has been proposed which consists of an energy storage system (ESS) along with the PV source and EV charger. The proposed system includes a PV array with a High gain boost converter, two bi-directional converters (BDC) and ESS. The BDC has been used for charging/discharging of the EV and ESS. The energy generated from PV is not sufficient to meet the demand during the absence of or reduced sunlight, thus, the ESS can meet the required demand.

Keywords: Bi-Directional Converters, Energy Storage System, PV Source

PV BASED DYNAMIC VOLTAGE RESTORER FOR POWER QUALITY IMPROVEMENT

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ABSTRACT

The usage of complex electrical and electronic equipment such as computers, programmable logic controllers, variable speed drives results in voltage drop in the system. The design of a Dynamic Voltage Restorer (DVR) that includes a PV array module with low and high-power boost converters as a DC voltage source utilizing Artificial neural network to help mitigate voltage sags in three phase distribution systems has been presented.

Keywords: Dynamic Voltage Restorer, PV array module

DIABETIC RETINOPATHY USING MACHINE LEARNING

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ABSTRACT

A dashboard is required that is capable of projecting analysed data through visual tools like bar graphs, pie charts etc on a display. The eye disease prediction includes percentage of affection, source of the disease, diets to be followed and medicines need to be followed, nearby medical centres to take treatment. The application must have a separate API to have a visual representation of the analysed data which can be integrated with any other web/desktop application. Our goal is to design and create a Dashboard to help the patients and the hospital management on the disease prediction by using Deep learning techniques. Patients can easily access application or software and they can know the results without any delay. Ensure the safety of the environment and the dates of the patients on the basis of medical facility and data integrity.

Keywords: Deep Learning, Eye Disease Prediction

AUTOMATED LUNG CANCER IDENTIFICATION USING IMAGE PROCESSING TECHNIQUES: A MACHINE LEARNING APPROACH

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ABSTRACT

Lung cancer is one of the most prevalent and fatal types of cancer. Early detection is critical for successful treatment and improved patient outcomes. Image processing techniques have emerged as a promising tool for aiding in the detection of lung cancer from medical images. In this paper, we present a novel approach for lung cancer identification using image processing. Our method involves pre-processing the input image, followed by feature extraction and classification using machine learning algorithms. We evaluate the proposed approach on a dataset of lung CT images and demonstrate its effectiveness in accurately identifying lung cancer. The results indicate that our method outperforms existing state-of-the-art techniques in terms of accuracy, sensitivity, and specificity. Our findings suggest that image processing techniques can play a vital role in the early detection and diagnosis of lung cancer, ultimately leading to better patient outcomes.

Keywords: Image processing, Cancer, Machine learning, CT images.

PERFORMANCE IMPROVEMENT OF SOLAR PV ARRAYS USING ANN ALGORITHM

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ABSTRACT

The use of fossil fuels as the main source in the production of electrical energy has resulted in a large increase in carbon dioxide emissions as well as a dramatic rise in fuel prices. Recent research works presented renewable energy sources (RESs) to become the most alternative solution for electricity production from natural resources. The increased energy production cost from RESs compared to fossil fuels encourages scientists in conjunction with the industry to develop more competitive materials and technologies to reduce the electricity production cost of such resources. Photovoltaic (PV) systems are taking a leading role as a solar-based renewable energy source (RES) because of their unique advantages. This trend is being increased in the field of Seawater desalination. This paper presents a study on the Seawater Desalination Plant (SWDP) located in Egypt feeding from the utility network. The main challenge in such a nonlinear system with a high level of variability is the optimum sizing of the SWDP with the proposed whole solar-powered while keeping good dynamic performance. For this MPPT algorithm is used in the existing system to withstand the dynamic response of the system. In our proposed system we used ANN algorithm to maintain the system which has high precision than the existing system.

Keywords:Solar pv panel,DC-DC Converter, ANN Algorithm, Controller

ENHANCING ELECTRIC VEHICLE WIRELESS CHARGING SYSTEM DYNAMIC RESPONSE WITH INTERLEAVED BOOST CONVERTER AND FLAT SOLENOID COUPLER

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ABSTRACT

In this study, a magnetic integration design is proposed for EV wireless power transfer systems using Interleaved Boost Converter (ILBCPT). The compensation and transmitting coils are designed to overlap each other to share the ferrite layer, without any decoupling consideration. By utilizing the magnetic field generated by both coils, power can be transferred efficiently. The aim of this research is to investigate the performance and operation of a simplified switching scheme and control strategy that can reduce the control complexity and device voltage stresses of the isolated wireless power transfer dc-dc converter. This new converter enables zero-voltage switching of all the main power devices, has reduced circulating currents, and can operate under a wider load range. The control can be implemented with Pulse Width Modulation (PWM) controllers. The study also focuses on improving the closed-loop dynamic response of the PID and MPC controlled system in the wireless power transfer dc-dc converter system. The converter's main operational modes and design equations are described, and simulations are conducted using MATLAB Simulink. Furthermore, a prototype model of the proposed converter is developed and experimental results are presented to demonstrate the feasibility of the proposed ideas.

Keywords: Interleaved Boost Converter, Pulse Width Modulation, Electrical Vehicle, Wireless Power Transfer, DC-DC Converter

AC MICRO-GRID SYSTEMS ENERGY MANAGEMENT USING SM CONTROL

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ABSTRACT

This project aims to investigate the performance of an AC micro-grid system with a SEPIC converter and inverter compared to the existing method of a buck boost converter with inverter, using MATLAB Simulink. The proposed AC micro-grid system includes a SEPIC converter and inverter power network, which allows for the integration of a significant amount of solar energy through distributed photovoltaic and battery units as input sources. The voltage flow battery plays a crucial role in balancing the supply and demand in the AC micro-grid system. The study involves modeling and simulation of the AC micro-grid system using PI and sliding mode (SM) controllers. The performance of the AC micro-grid system based on SEPIC and buck boost converter and inverter with both PI and SM controllers is compared, and the results are presented. The findings indicate that the SM-controlled SEPIC converter with inverter system provides a better response compared to the buck boost converter with inverter system. Overall, the study provides insights into the feasibility of using the proposed AC micro-grid system for efficient energy management.

Keywords: MicroGrid, SMControl, Boost Converter, SEPIC, PI Controller

IOT BASED BATTERY MANAGEMENT SYSTEM ANALYSING BATTERY CONDITION USING CLOUD SERVICES

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ABSTRACT

This proposed system describes the application of Internet-of-things (IoT) in monitoring the performance of an electric vehicle battery. Electric vehicle depends entirely on the energy source from the battery. However, the amount of energy supplied to the vehicle is decreasing gradually which leads to performance degradation. This is a major concern for battery manufacture. In our proposed system the idea of monitoring the performance of the vehicle using IoT techniques is proposed so that the monitoring can be done directly. Based on experimental results, the system is capable to detect degraded battery performance and sends notification messages to the user for further action. In this proposed system an indication of the battery's voltage, current, and the remaining charge capacity is calculated in a real-time scenario. To monitor these battery parameters, we have developed a data acquisition system by building a PIC based system. Further, data are also displayed on an Android mobile device and are stored in a server database. We have developed a realistic model to create the final product for our proposed system.

Keywords: Lithium Ion Battery, Cooling Fan, Sensors, Android Mobile, Arduino UNO

BATTERY MANAGEMENT SYSTEM IN ELECTRIC VEHICLE USING ARDUINO

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ABSTRACT:

The use of green energy is becoming increasingly more important in today's world. Therefore, electric vehicles are currently the best choice for the environment in terms of public and personal transportation. Because of its high energy and current density, lithium-ion batteries are widely used in electric vehicles. Unfortunately, lithium-ion batteries can be dangerous if they are not operated within their Safety Operation Area (SOA). Therefore, a battery management system (BMS) must be used in every lithium-ion battery, especially for those used in electric vehicles. Battery management systems (BMS) is used in electric vehicle to monitor and control the charging and discharging of rechargeable batteries through arduino which makes the operation more economical. Battery management system keeps the battery safe, reliable and increases the senility without entering into damaging state. In order to maintain the state of the battery, voltage, current, ambient temperature and over charging protection, deep charging protection, energy management, voltage indication, cell balancing different monitoring techniques are used. For monitoring purpose different analog/digital sensors with microcontrollers are used. In this work, the purpose, functions and topologies of BMS are discussed in detail. In addition, early battery models along with the hardware and system designs for BMS are covered in a literature review. Then, an improved battery model is introduced, and simulation results are shown to verify the model's performance. Finally, This project addresses state of charge, state of health, and state of life and also maximum capacity of a battery. By reviewing all these methodologies future challenges and possible solutions can be obtained.

Keywords: Lithium Ion Battery, Battery management systems, Safety Operation Area

SOLAR BASED WIRELESS CHARGING SYSTEM USING LI-ION BATTERY FOR EV APPLICATION

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ABSTRACT

Electric vehicles have now hit the road worldwide and are slowly growing in numbers. Apart from environmental benefits electric vehicles have also proven helpful in reducing cost of travel by replacing fuel by electricity which is way cheaper. The system makes use of a solar panel, battery, transformer, regulator circuitry, copper coils, Atmega controller and LCD display to develop the system. The system demonstrates how electric vehicles can be charged while moving on road, eliminating the need to stop for charging. The solar panel is used to power the battery through a charge controller. The battery is charged and stores dc power. The DC power now needs to be converted to AC for transmission. For this purpose we here use a transformer.

Keywords: Lithium Ion Battery, Battery management systems, Safety Operation Area, Electric vehicles

FUZZY LOGIC CONTROLLED PV-MPPT BASED SEPIC CONVERTER WITH IMPROVED DYNAMIC RESPONSE

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ABSTRACT

The incorporation of photovoltaic (PV) modules into DC to DC SEPIC converter depends on the abilities of most extreme force point (MPP) following and yield over voltage Regulation (OVR). Under incomplete concealing or confuses between PV submodules, precise MPP tracking and efficient OVR are challenging processes. For worldwide MPP follow ing, dispersed MPP following is a potential solution, but comes at the expense of increased system complexity. For the OVR, working the PV module at its present source locale would bring about rather high force misfortunes in the converter circuit and, consequently, expanded warmth amassing. The presence of numerous present source districts in the befuddled PV attributes entangles the Fuzzy logic control structure. The advanced Fuzzy logic controller for module incorporated converters created here backings the compelling and compared PV with MPPT FOPID controlled system. The proposed twofold stage worldwide MPP following calculation acknowledges quick and exact MPP following neither intermittent checking nor motions around the ideal. For the OVR, the calculation focuses on the decrease of the converter power misfort unesthrough viable designation of the PV working point of improved dynamic response.

Keywords: MPPT, FOPID, OVR, SEPIC converter

FLYBACK TRANSFORMER BASED ACTIVE CELL BALANCING IN LITHIUM ION BATTERIES

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ABSTRACT

This project presents a novel approach to active cell balancing in lithium-ion batteries using a flyback transformer. The proposed technique is designed to improve battery performance and increase the lifespan of the battery by ensuring that each cell is charged and discharged evenly. The system consists of a flyback transformer, a DC-DC converter, and a control circuit that regulates the charging and discharging of each cell. The control circuit monitors the voltage of each cell and adjusts the charging and discharging currents to maintain a balanced state. The proposed technique offers several advantages, including high efficiency, low cost, and improved battery performance. Simulation results show that the proposed technique can effectively balance the cells and improve battery performance. The proposed approach has the potential to be implemented in various battery applications, including electric vehicles and renewable energy systems.

Keywords: Lithium Ion Battery , Active Cell Balancing, Fly back Transformer, Battery Management Systems

ANALYSIS OF LITHIUM-ION BATTERY PERFORMANCE AND TEMPERATURE EFFECTS: COMPARING LFP AND NMC CHEMISTRIES

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ABSTRACT

This study focused on here, we take a closer look at two of the most popular lithium-ion chemistries: lithium iron phosphate (LFP) and nickel manganese cobalt (NMC). From home batteries to grid-scale applications to electric cars, lithium-ion batteries are employed in a range of applications, especially in electric vehicle (EV) applications. In this study includes analysis of the charging and discharging of lithium iron phosphate (LFP) and lithium nickel manganese cobalt oxide (NMC) cells at various temperature levels. Lithium-ion batteries' electrical behaviour is difficult to predict and greatly influenced by the materials chosen for the electrodes and electrolyte. Furthermore, to operate battery-based electric cars safely and effectively, accurate information on non-directly quantifiable parameters like state-of-charge (SOC) is necessary. This experimental setup is realistically recreated using MATLAB/Simulink, as will be demonstrated in the next portions of the study. In many different application systems, lithium-ion batteries act as power sources. Temperature, a crucial element, has a considerable impact on the performance of lithium-ion batteries and also restricts their use. Also, different temperature ranges have various negative impacts. For good battery management, it's critical to detect the temperature inside lithium-ion batteries accurately and comprehend the consequences of temperature. We talk about the effects of temperature on lithium-ion batteries in this review, both at low and high temperatures. At temperatures below zero degrees Celsius, LIBs' performance will suffer. Compared to those at low temperatures, the effects at high temperatures are far more complex. Understanding the heat generation is essential to limiting the consequences of high temperatures in LIBs since heat is produced inside the batteries and outside temperature while the LIBs are operating. The analysis's findings are used to assess the benefits and drawbacks of lithium iron phosphate and manganese cobalt oxide cells in relation to environmental temperature. A few concluding remarks are supplied in the final result section from the conclude data.

Keywords: Lithium Iron Phosphate, Manganese Cobalt Oxide

A STUDY ON NETWORK TOPOLOGY IN MOBILE WIRELESS SENSOR NETWORKS

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ABSTRACT

Mobile Wireless Sensor Networks (MWSN) is used in real-world applications today where sensor nodes move around. MWSNs are much more flexible than static WSNs because the sensor nodes can be set up in any situation and can handle quick changes to the network topology. MWSNs are mostly used in economics, environmental monitoring, inventory tracking, and tactical military surveillance. In the Mobile Sensor node architecture, residual energy utilization, mobility, topology, scalability, localization, data collection, routing, and quality of service (QOS) are the key factors to designing an energy-efficient MWSN for a specific purpose. The goal of this paper is to give a brief overview of network topologies, which is one of the branches in the taxonomy of mobile wireless sensor networks.

Keywords : MWSN, Network Topologies.

NEURAL NETWORK ARCHITECTURES FOR SEGMENTATION BASED ON MELANOMA DETECTION

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ABSTRACT

Melanoma is a type of skin cancer that causes around 75% of deaths worldwide. However, most of the skin cancers can be cured, especially if detected and treated early. Existing approaches have employed various feature extraction methods, where different types of features are used individually for skin image classification which may not provide sufficient information to the classification algorithm necessary to discriminate between classes, leading to sub-optimal performance. This study develops a novel skin image classification method using multi-tree genetic programming (GP). To capture local information from gray and color skin images, Local Binary Pattern is used in this work.

In this project, we propose a novel approach for melanoma detection that combines deep learning-based segmentation and classification techniques. Our results demonstrate that the proposed approach achieves high accuracy in melanoma detection and can potentially aid dermatologists in early diagnosis. The Tremendous Improvement Deep Learning Algorithms In Image Recognition Tasks Promises A Great Success For Medical Image Analysis, In Particular, Skin Cancer Classification For Skin Cancer Diagnosis. Activation Functions Play An Important Role In The Performance Of Deep Neural Networks For Image Recognition Problems As Well As Medical Image Classification. The dataset was divided into 80% for training and 20% for testing and validation.

Keywords : Image Recognition, Skin Cancer

A STATISTICAL REVIEW FOR RECENT AND TRENDING DDOS ATTACK DETECTION METHODS IN SOFTWARE-DEFINED NETWORKS

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ABSTRACT

DoS attacks target legitimate users of blocked network resources. The provision of Internet services has gained attention since both the general public and service providers are becoming more dependent on it. DoS attacks affect users negatively and cost service providers money, but they can also have catastrophic effects on critical infrastructure, including intelligent grid systems and public utilities. This systematic literature review is completed using PRISMA guideline. There are numbers of research papers searched about implementation of eager algorithm for DPTCM in relation to SDN and KNN networking adversaries using the online databases like IEEE Xplore and Google Scholar, and then reviewed the same on the basis of inclusion and exclusion criteria set specifically to complete this study. An assault on an intelligent grid infrastructure could lead to a cascaded power outage and a significant blackout. In the past decade, researchers suggested approaches to detect these attacks. There are some specific detectors used for the purpose of identification. Moreover, the detectors are comprised of traffic statistics related to the network; for example, entropy entry fields (e.g. source IP addresses or protocol type etc). However, The Intrusion detection mechanisms (IDS) can be spoofed by entropy-based detection approaches. The network can be sniffed and background entropy determined by an attacker before DDoS attacks launch. One must be then spoof attack packets to ensure that entropy is maintained in the predicted range. This paper includes a peered analysis of SDN and KNN which can be further illustrated with eager learning algorithm as a DPTCM.

Keywords : KNN, DPTCM

A HYBRID ALGORITHM TO DETECT LUNG NODULES USING MACHINE LEARNING

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ABSTRACT

Lung cancer is one of the most common neoplastic diseases with a high mortality rate, mainly because of the late detection of the presence of malignant neoplasms. Most people diagnosed with lung cancer are over the age of 65. Very few people are diagnosed with cancer before age 45. The conventional methods that are used in the diagnosis of lung cancer is inadequate. The importance of Computerized Tomography in diagnosing this tumor, the large number of data that radiologists processes not only produce a heavy task but also slow down the process of detecting lung cancer in early stage for treatment to take its action. One of the best method is Convolutional Neural Network, that explains several deep learning models that features filters and are trained with local pooling operations that is incorporated on input CT images on an alternating manner for creating an array of hierarchical complex features. There are many number of variants and models of convolutional neural networks used very effectively to detect lung nodules. This article describes lung nodule detection using machine learning algorithms and convolution neural networks. Convolutional neural networks can more quickly and accurately identify and classify lung cancer types, which is critical for determining the correct procedure for patient treatment and survival. A DICOM (Digital Imaging and Communication in Medicine) CT image and patient ID in csv file format are provided as input. As a result, the training and validation accuracy of the CNN model is 60% and 80%.

Keywords : CNN, CT

DEVELOPING SUBSEA COMMUNICATION SYSTEM USING FIBER OPTICS UMBILICAL

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ABSTRACT

In today's modern technology, to open a valve in subsea, it takes quite a long time through the hydraulic process. This project aims to reduce the time in subsea Communication by using fibre optics as a medium for Communication. Due to several factors affecting the frequency travel of wireless network underneath sea with great depth, temperature, pressure, and presence of saltiness makes wireless Communication in subsea impossible and many researchers are working on to develop the subsea communication system using Wi-Fi technology. This technology is developed to overcome and avoid time delay in controlling the subsea equipment, to remove the issue of hydraulic fluid discharge, to avoid subsea accumulation in deep water, to reduce the overall cost of the project by reducing the overall time of the project, to avoid Long residence time in long umbilical leading to degradation of fluids (flocculation) , to develop new technology which will pave a way to wireless Communication using optics in future To avoid the above-mentioned issues, A product is developed which control the subsea equipment using fibre optics and solves all the problem mentioned above.

Keywords : wireless network, Communication

MOTORIZED IV POLE WITH IV BAG REFILL NOTIFICATION

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ABSTRACT

In hospitals and healthcare facilities, IV poles are routinely used to provide saline, glucose, and other liquids to patients via intravenous lines. In order to assure gravity-based fluid flow, the filled IV bags often need to be at a specific distance from the patient bed. Hence, the pole height should range from 4 to 7 feet. When IV bags are hung from fixed poles, this can lead to nurse arm and neck sprains as well as stand toppling dangers. It takes a lot of time to manually reduce and raise the height each time while changing IV bags in height-adjustable poles. Moreover, there is no indication of the IV bag's need for replacement as it becomes dry. Here, we propose a suggestion for a motorized, automated IV pole stand to address these issues. By just hitting a button, the IV pole's height may be adjusted for simple, hassle-free operation. The IV pole additionally includes a sensor that measures how much fluid is still in an IV bag. With this, the system begins to display alerts and play gentle sound signals to indicate that the IV bag needs to be changed when it runs out of fluid.

Keywords : IV poles, signals

SMART NICU INCUBATOR USING IOT

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ABSTRACT

One million babies die on their first day, and four million babies worldwide die within the first month of life. At least 25% of neonatal mortality is directly or indirectly attributable to pre term birth, with low birth weight (LBW) newborns being most at risk. We have a strategy to help prevent the mortality of such newborns based on the survey. A baby incubator is created that can mimic the environment and temperature of a mother's womb while also keeping an eye on the baby's vital signs including heart rate, skin temperature, internal temperature, For doctors, it has become extremely difficult to be physically present with their patients. In such circumstances, integrating IoT with medical equipment like a baby incubator has emerged as one of our primary objectives. It would be highly beneficial to offer an application that allows parents to monitor their child's condition from a distance. We'll use IoT and a smart-phone application so that doctors can remotely check on the infant. Our suggestion is to create a biomedical device (baby incubator) that meets the needs of the newborn by providing weight, humidity, oxygen, and warmth (heating and UV light).

Keywords : LBW, UV Light

WATER DISSEMINATION PREDESTINED WITH STELLAR ENERGY SYSTEM

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ABSTRACT

Water is the basic element for the existence of human beings and our welfare. About 75% of the world is surrounded by water through oceans, seas and soon. But we have polluted major amount of water by dumping wates, mixing hazardous substances, directing industr ia l chemicals, toxic released from textiles and dying industries, mixing those sewage wastes into the water reduces its quality and makes its unsuitable for the usage of domestic purposes and assures effective water supplying system with the help of Arduino. Due to the active help of the Realtimeclocks, we can delver water to the respective areas at pre-determined timings.

Keywords: Hazardous, Chemicals

HEALTHCARE MONITORING SYSTEM ON MILITARY FIELD USING WIRELESS UNDERGROUND SENSOR NETWORKS

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ABSTRACT

Magnetic Induction based communication through soil which is employed to monitor health conditions of soldiers using Wireless Underground Sensor Networks in Battle Field. Military communications (MILCOM) have played a vital role for deployed soldiers. The underground is a challenging environment for wireless communications since the propagation medium is no longer air but soil, rock and water. Wireless Underground Sensor Networks(WUSNs) constitute one of the promising application areas of the recently developed wireless sensor networking techniques. Military Field considering extreme underground conditions where soldiers have to be undercover in difficult climatic conditions. From the soldier, the health data is transmitted to commando who monitors it continuously and take appropriate actions if needed. Health conditions including parameters like heart rate, temperature, respiration rate, etc., can be noticed at appropriate time and make sure the soldier is in perfect health. These biometric data of soldiers are measured using various sensors and transmitted to the receiver end. The normal healthy body should have heart rate between 60 to 100 beats per minute, temperature of 37°C and respiration rate between 60 to 100 beats per minute. The data is studied by the medicos and corresponding suggestions are given accordingly.

Keywords: Hazardous, Chemicals

A COMPARATIVE STUDY OF AD HOC NETWORKS FOR HYBRID PROTOCOL DEVELOPMENT

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ABSTRACT

Routing Protocols are the set of defined rules used by the routers to communicate between source & destination. Network Router protocols help to specify way routers communicate with each other. Here we simulated out three routing protocols, AODV (Ad-hoc On-Demand Distance Vector), DSR (Dynamic Source Routing), and DSDV (Destination-Sequenced Distance Vector) for wireless ad-hoc networks. Each protocol has its own strengths and weaknesses, and their performance can vary depending on the network conditions and application requirements. In NS2, we are in a common approach to analyze these protocols to use simulation models and metrics such as packet delivery ratio, end-to-end delay, throughput, and network overhead. These metrics can be used to compare the performance of each protocol under different scenarios and identify areas for optimization. From the analysis of these protocols, we are going to create a hybrid protocol based on their performance considering their package delivery efficiency. A hybrid protocol in NS2 is a combination of two or more different routing protocols that work together to improve network performance. Such protocols would typically describe the problem being addressed, the motivation for using a hybrid approach, and the key features of the proposed protocol. The key features of the protocol are, such as its ability to dynamically adapt to changing network conditions, its use of multiple metrics for route selection, and its support for multicast routing. Finally, this concludes with a summary of the experimental results, demonstrating the improved performance of the hybrid protocol and few other protocols.

Keywords: Routing Protocols, AODV

CUSTOMER SEGMENTATION USING ML TECHNIQUES

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ABSTRACT

Customer segmentation is highly important, in order to optimize marketing strategies, maximize a customer's value to a business, and improve customer experience and satisfaction. With such a wide variety of people and personalities in the world, it becomes very difficult to characterize a potential market. Hence, there is a need to know the target customer base in order to make sure the business and marketing strategies are both effective and appropriate. Customer segmentation begins with grouping potential customers into customer segments with similar characteristics, such that one can communicate to all of the individuals in that segment efficiently and effectively, thereby making the marketing strategies more effective and efficient, which will further enhance the profits of the company. Artificial intelligence and machine learning play an important role in segmentation of customers more accurately, taking into account many hidden factors, which contribute significantly for a business to succeed. Various clustering algorithms (like k-means clustering algorithm) can be used for grouping the customers belonging to various categories into different clusters.

Keywords: Artificial intelligence, Segmentation

ENGINE OIL ALERT SYSTEM AND POLLUTION CONTROL

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ABSTRACT

In Existing there is no system for monitor for engine oil there is no way to indicate the vehicle user, So high chance to engine get ceased. The beginning of the 21st century was the time. When importance for most of the people use two wheelers. Our personal transportation choices have a huge impact on air quality. These emissions, including microscopic particles, can contribute to breathing and heart problems along with complications, including cancer, asthma, eye irritation, poisoning, heart disease and birth defects. Vehicles tend to emit more pollution during the first few miles of journey when their engines are warming up. Although new technology and cleaner fuel formulations will continue to cut emissions of pollutants, the increasing number of vehicles on the road and miles driven is eroding these benefits. In this proposed method, Arduino MEGA microcontroller is used to interface with the sensors and to the communication devices. The ultrasonic sensor is used to measure the oil level in the Engine. The CO₂ sensor is used to sense the exhausting air from the motor. The color sensor is used to indicate the engine oil change in the motor. The LCD display is used to display the updated information from the GSM. The GSM are used to transfer the updated information to the motor user. The LED's are used to alert the oil level in the motor. The all condition are done the motor will be run. If any condition will be changes the motor also run and alert through the SMS to user.

Keywords: Arduino, Microcontroller

ATTENTION DETECTION SYSTEM USING BRAIN COMPUTER INTERFACE

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ABSTRACT

The human brain provides several functions such as expressing emotions, controlling the rate of breathing, etc., and their study has aroused the interest of scientists for many years. In this project, we propose a method to assess and quantify human attention and its impact on learning. In our study, we used a Brain-Computer Interface (BCI) capable of detecting brain state variations, whether distracted or not and displaying corresponding electroencephalograms (EEGs). The BCI headset comprising of surface EEG electrodes is attached to the user's head to acquire the brainwaves. The signal received by the BCI headset is processed to remove external noise. The calculated frequencies are then compared to the threshold frequencies of the brain state and a specific decision like whether a person is in an active or distracted state, and the data is then recorded in the internal storage.

Keywords: BCI, EEG

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN DRUG DISCOVERY AND DEVELOPMENT

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ABSTRACT

“Artificial Intelligence and Machine Learning in Drug Discovery and Development” is a review article that discusses the recent advances in artificial intelligence (AI) and machine learning (ML) techniques in drug discovery and development. The abstract presents the key findings and conclusions of the review, highlighting the potential of AI and ML in accelerating drug discovery and development processes. The article discusses how AI and ML can be used to predict drug interactions, toxicity, and efficacy, thus reducing the time and cost of bringing new drugs to market. The review also highlights the challenges and limitations of using AI and ML in drug discovery and development, such as the lack of high-quality data and the potential for biased algorithms. Overall, the article emphasizes the potential of AI and ML to transform the pharmaceutical industry and improve human health. The authors call for continued research and development in this area to maximize the benefits of these technologies in drug discovery and development.

Keywords: Artificial intelligence, machine learning, drug discovery, advanced technology, drug development

WATER WASTE COLLECTING ROBOT USING ARDUINO

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ABSTRACT

The project emphasis on design of the water waste collection. Trillions of pieces of plastic currently pollute the seas, lakes, ocean harming sea life, contaminating ecosystems. Thus, It's important to clean up the plastic in the water. In this venture we have manufactured Bluetooth controlled waterway cleaning machine. Prime objective of our project is to collect all the wastes which are found floating on water bodies and to minimize labour work. This is done by Microcontroller for controlling all parts of a machine by using a smart phone by using Wi-Fi or Bluetooth. This machine consists of waterwheel driven conveyer mechanism which collect the wastage, garbage & plastic wastages from water bodies. A machine will lift the waste surface flotsam and jetsam from the water bodies, this will eventually result in decrease of water contamination and in conclusion, the sea-going creature's demise to these issues will be diminished. It comprises of Belt drive component which lifts the flotsam and jetsam from the water. The use of this project will be made in ponds and other water bodies to clean the surface water debris from bodies. The required components are microcontroller (Arduino), Bluetooth module, motors, motor driver, conveyor belts, battery, wheels and android app. Setting up Bluetooth availability between Android Application and the Bluetooth module. Check whether the gadget is associated. Connect the Bluetooth module (HC-05) to our mobile and then move to app. Whenever associated, give the pre-characterized directions to the smaller scale telephone of the portable handset. At that point, they put away the directions on a specified android application which is installed on a mobile. Open the android application and give the instructions which we are given in the Arduino program. Then the machine will work as follows. Hence by using these trash collecting machine we are cleaning the river water surface and maintaining the water without trash and waste materials.

Keywords: Ecosystems, Arduino

DRUG FREE SOCIETY WITH IOT AND AWS

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ABSTRACT

The Rapid usage of drugs has a widespread impact on the globe. Especially among theyoungsters it is spreading like a wild fire. Inorder to eradicate that from the root level an indoor air quality monitor has been designed to monitor the usage of drugs in public places. The device sense the usage of illegal drugs and immediately send the Information to police.

Keywords: Globe, Illegal drugs

MILK QUALITY DETECTION USING IOT SYSTEM

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ABSTRACT

Milk adulteration has become a major health-related issue. This issue can be resolved using the internet of things which is a broad topic that started to cover almost a breadth of every technological advancement in recent years. At this point, it is essential to introduce the benefits and functionalities of using Internet of Things (IoT) devices to serve nutritional purposes. Our aim in this paper is to construct a quality monitoring system based on IoT which will ensure the quality of milk which is a common dairy product. Our focus is to monitor the quality of milk based on pH value, color, bacteria, fermentation and thickness to determine the quality of the milk. Serial communication is also being established between Arduino uno and node mcu for dynamic sensor data transmission. Milk quality monitoring is a relevant field nowadays due to the large numbers of adulterated foods being detected in India.

Keywords: IoT, Serial communication

A BOREWELL INFANT RESCUE SYSTEM USING LORA

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ABSTRACT

To meet the demand of water bore wells are dug across the globe, especially in the developing countries like India. In recent years many cases have been reported of children getting trapped in the bore wells which take the life of the children and are a nightmare of parents. There is a definite need for developing a security and rescue system for children to rescue from the bore wells. In this paper the problems faced in the previous system will be overcome using sensors and microcontrollers. Using the surveillance camera the child can be rescued by a hand gripper with utmost safety. It gives real time data of the sensors and have a medical assistant through communication with LoRa. For the extra support we use a bladder which can be inserted under the infant to hold and prevent to get deep into the bore well.

Keywords: LoRa, Bladder

WIRELESS AND MOBILE COMMUNICATION

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ABSTRACT

Mobile communication systems revolutionized the way people communicate. Evolution of wireless access technologies is about to reach its fourth generation and 5G mobile networks will focus on the development of the user terminals where the terminal will have access to different wireless technologies at the same time and will combine different flows from different technologies. Looking past, wireless access technologies have followed different evolutionary paths aimed at unified target related to performance and efficiency in high mobile environment. The first generation has fulfilled the basic mobile voice, while the second generation has introduced capacity and coverage. This is followed by the third generation, which has quest for data at higher speeds. The fourth generation provides access to wide range of telecommunication services, including advanced mobile services, supported by mobile and fixed networks. Fifth generation should be more intelligent technology that interconnects the entire world.

Keywords: Mobile communication, networks

BRAIN/LUNG CANCER DETECTION AND SEGMENTATION AND BREAST DENS CALCULATION

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ABSTRACT

Cancer Diagnosis and prediction have been one of the most important challenges faced by mankind in the last few decades. Accurate detection of cancer would facilitate saving millions of lives. Therefore, our research presents Brain/Lung/Breast (BLB) automated detection system. We precisely predict the occurrence of cancer and segment the expected region of tumor/cancer in MRI/CT-Scan/Mammography. This System propose different classification techniques including Support Vector Machine (SVM) achieved 98% accuracy in classifying brain tumor and Normal in MRI images. Extra-Tree achieved 95.38% accuracy in classification of Breast Dense in mammography images. Convolutional Neural Network (CNN) deep learning accomplished acceptable results in Lung Cancer Detection. The presented system consists of (Pre-processing / Post-processing, Segmentation, Featureextraction, and Classification).

Keywords: CancerDiagnosis

PROGNOSIS OF MULTILUNG DISEASE USING DEEP LEARNING

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ABSTRACT

In this study, we tackle the task of lung illness diagnosis from chest X-ray pictures utilizing tiny datasets with less than a thousand samples in order to address the issue of medical data scarcity. With the use of a transfer learning methodology, we developed three deep convolution neural networks (VGG16, Res Net-50, and Inception) and tested them on the Image Net dataset for lung disease classification tasks. We developed a pipeline to segment chest radiographs (CXR) before classifying them, and we evaluated how well our framework performed in comparison to others. We have demonstrated that simple classifiers like shallow neural networks and pre-trained models can compete with complicated systems. We also tested our methodology against publically accessible lung datasets from Shenzhen and Montgomery, evaluating its efficacy against competing approaches. Our approach, however the advantage of our method resides in the smaller number of trainable parameters. was able to reach the same level of accuracy as the highest performing models trained on the Montgomery dataset. Despite being computationally less expensive, our ResNet- 50-based model nearly tied the top performing solution on the Shenzhen dataset .

Keywords : ResNet- 50

AIR QUALITY MONITORING FOR ENVIRONMENTAL IMPACTS BY USING ARDIUNO

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ABSTRACT

In this study, we tackle the task of lung illness diagnosis from chest X-ray pictures utilizing tiny datasets with less than a thousand samples in order to address the issue of medical data scarcity. With the use of a transfer learning methodology, we developed three deep convolution neural networks (VGG16, Res Net-50, and Inception) and tested them on the Image Net dataset for lung disease classification tasks. We developed a pipeline to segment chest radiographs (CXR) before classifying them, and we evaluated how well our framework performed in comparison to others. We have demonstrated that simple classifiers like shallow neural networks and pre-trained models can compete with complicated systems. We also tested our methodology against publically accessible lung datasets from Shenzhen and Montgomery, evaluating its efficacy against competing approaches. Our approach, however the advantage of our method resides in the smaller number of trainable parameters. was able to reach the same level of accuracy as the highest performing models trained on the Montgomery dataset. Despite being computationally less expensive, our ResNet50-based model nearly tied the top performing solution on the Shenzhen dataset.

Keywords : CXR, Convolution Neural Networks

MULTIBAND COMPACT MMW ANTENNA FOR 5G SMART PHONES

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ABSTRACT

The design of a millimeter wave (mmW) antenna for the 5G mobile applications is presented in this paper. designed antenna has dimensions of $10 \times 10 \times 0.245$ mm³. This includes the copper ground plane. The resonance of the proposed mmW antenna lies within the range of 33 GHz and 43 GHz. These frequency bands are covering the 5G proposed band in terms of the signal speed, data transmission, and high spectral efficiencies. High-frequency structure stimulation (HFSS) software is used to simulate the proposed 5G antenna including the characteristics of S- parameters, gain, and radiation pattern. Simulation results show that the return loss at resonant frequencies goes -22 dB, which satisfies the requirements of 5G mobile technology.

Keywords : 5G mobile applications

COMBINED INTERLEAVING AND COMPANDING FOR PAPR REDUCTION IN OFDM SYSTEMS

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ABSTRACT

Peak to Average control Ratio (PAPR) is one of the difficult issues in any remote correspondence framework utilizing multicarrier regulation system as OFDM which diminis hes the efficiency of transmit high control intensifier. In this paper, proposed plan will be presented, which joins interleaving procedure and companding system to diminish PAPR. This plan will be contrasted and the framework that utilizations other method for decrease which is the section procedure. By utilizing proposed plot, the PAPR of OFDM sign can be decreased by 6.8 dB over the first framework, i.e., without PAPR decrease. Additionally, SNR diminishes by in excess of 5 dB for Bit Error Rate (BER) of 10^{-3} over the first framework. Also, the proposed plan gives improvement more than 4.5 dB for BER of 10^{-3} over the framework that utilizations cutting. Every one of these frameworks will be assessed within the sight of nonlinear control enhancer.

Keywords : OFDM, PAPR

FOREST FIRE DETECTION

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ABSTRACT

Peak to Average control Ratio (PAPR) is one of the difficult issues in any remote correspondence framework utilizing a multicarrier regulation system such m as OFDM which diminishes the efficiency of transmitting high control intensifier. This paper will present a proposed plan, which joins the interleaving procedure and companding system to diminish PAPR. This plan will be contrasted and the framework that utilizations another method for decrease which is the section procedure. By utilizing the proposed plot, the PAPR of the OFDM sign can be decreased by 6.8 dB over the first framework, i.e., without a PAPR decrease. Additiona lly, SNR diminishes by more than 5 dB for a Bit Error Rate (BER) of 10^{-3} over the first framework. Also, the proposed plan gives an improvement of more than 4.5 dB for BER of 10^{-3} over the framework that utilizations cutting. Every one of these frameworks will be assessed within the sight of nonlinear control enhancer.

Keywords: PAPR, OFDM, Companding

SMART SHOES FOR VISUALLY IMPAIRED PEOPLE USING ARDUINO

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ABSTRACT

Blind and visually impaired people encounter many challenges in their mobility and navigation. Their daily activities are obstructed due to their inability to adapt or identify accurately their surroundings which becomes the main reason of accidents, falling off, and getting lost in unknown areas. In this paper, the design, the implementation and the validation of smart shoes that would serve as an effective solution for more secured movements for blind and visually impaired people will be proposed. This system is developed to detect obstacles, wet floor and patients' falls. In case of presence of one of the above incidents, the user will be notified acoustically using some voice alarms. Moreover, a compatible phone application is designed to notify the patient's parents in case of any issue and share his location. As the system is dealing with human health, some safety measurements were taken into consideration in the design phase, mainly electrical safety, in order to reduce error and false alarms as well as to increase accuracy. The system was tested over five subjects and the results have shown low faulty errors and good accuracy and detection percentages along with an accuracy that reached about 96%.

Keywords : Blind and visually impaired people, phone application

IOT ENABLED VANET ACCIDENT DETECTION SYSTEM USING NEARBY VEHICLES

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ABSTRACT

The delay of vehicle emergency has led to many serious consequences. A series of studies have been carried out in the field of information security to reduce the delay. However, open issues such as the authentication of emergency vehicle avoidance are remaining unsolved. In this paper, we propose an emergency protocol which is operated through Zigbee device, which communicates with the adjacent device to transfer signal to the nearby emergency station which reduces the delay of the emergency vehicle. The condition of the vehicle and the nature of accident or breakdown are monitored and this information are managed by IoT, by which the required steps can be initiated by the emergency team accordingly. Through Zigbee transmitter from the vehicle (Breakdown vehicle) transmits the signal continuously to the nearby or crossing vehicle and the crossing vehicle receives it and transmits to the nearby Road Side Assistance unit or the Emergency unit about the status and location of the vehicle and can rescue them.

Keywords : Zigbee device, Information security

PADDY LEAVES DISEASES CLASSIFICATION USING ARTIFICIAL INTELLIGENT ICETET23-ECE28

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ABSTRACT

The Smart farming system using necessary infrastructure is an innovative technology that helps to improve the quality and quantity of agricultural production in the country. Paddy leaf disease has long been one of the major threats to field security because it dramatically reduces crop yield and compromises its quality. Accurate and precise diagnosis of diseases has been a significant challenge and recent advances in computer vision made possible by deep learning have proved the way for camera-assisted disease diagnosis for paddy leaf. It described the innovative solution that provides efficient disease detection and deep learning with convolutional neural networks (CNN) that has achieved great success in the classification of various paddy leaf diseases. A variety of neuron-wise and layer-wise visualization methods were applied using a CNN, trained with a publicly available paddy leaf disease image dataset. So, it was observed that neural networks can capture the colors and textures of lesions specific to respective diseases upon diagnosis, which resembles human decision-making.

Keywords : CNN, Smart farming

APPROXIMATE CARRY SELECT ADDERS(ACSAS)

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ABSTRACT

Addition units are commonly used in various applications such as machine learning, signal processing, image processing and video processing, image processing and video processing. Addition units are not only used independently but also as fundamental components for other mathematical operations such as subtraction, comparison, multiplication, squaring and division. Parallel prefix adders (PPAs) are one of the fastest adders and are made up of carry operator nodes or prefix operators (POs). In this work, approximate PPAs are introduced by taking advantage of approximations in the POs. The AxPPAs are compared with energy efficient approximate adders (AxAs) in stand-alone cases and two signal processing application kernels: sum of squared impulse response (FIR) filter kernel. The AxPPAs-LF provides superior results in both energy-quality and area-quality outcomes when compared to state-of-the-art energy-efficient AxAs.

Keywords : Parallel prefix adders, FIR

SMART ACCIDENT DETECTION AND RESCUE SYSTEM USING VANET

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ABSTRACT

Nowadays vehicles are improving, which make difficulties in controlling traffic that leads to accidents especially in no network areas. The most essential thing is to prevent an accident, unfortunately if an accident occurred it is important to detect the accident and to take immediate action on detection. This project proposed system solves and issue formed on VANET[Vehicle Ad-hoc Network].In VANET each active vehicle is observed as a node and each will communicate with one another [Vehicle to Vehicle Communication(V2V)] and the transmission between vehicle and base station(Road Side Unit) [Vehicle to Infrastructure Communication(V2I)].

Keywords : VANET, Vehicle to Vehicle Communication

SMART WALKING CANE BASED ON SONAR

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ABSTRACT

The field of electronics and especially Embedded systems and micro controllers have always been a fascination. After learning about some of the basic sensors It was greatly disappointing that there was no Sonar or a Radar sensor and plotter. This project gave us an excellent opportunity to build a sonar sensor application. A practical Sonar or Radar is huge, operate at very high-power levels, have very quick responsive circuits and have a range of up to 400Km. It is obviously impossible to build one at this stage so a miniature of a sonar was built to learn about its working, characteristics and limitation. This project culminates with our best and honest efforts to build a miniature Sonar based on arduino microcontroller to improve on a normalcane to have capabilities that can enhance the experience on a daily basis with a main emphasis onimproving the walking cane used by the visually impaired people to give an improved experienceon the daily life.

Keywords : Embedded systems

ANDROID CONTROL WILDLIFE OBSERVATION ROBOT

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ABSTRACT

Wildlife observers need to get a close footage of wild animals by getting into their habitats. Well, not all wild animals are safe to approach up close. Wildlife viewers can interact closely with wild creatures by going into their habitats. It is true that it is not always safe to approach any wild animals. We therefore propose this wildlife surveillance robot with night vision capability for this purpose. Users only need their Android phones to wirelessly control this robot. Moreover, the robot features a wireless camera that wirelessly streams video to the user Desktop. An 8051 series microcontroller is utilized in this system to process commands given by users. The system receives these instructions via a Bluetooth modem. After processing this data, the microcontroller sends impulses to the driver motors. Now that the desired signal outputs have been provided to control the vehicle movement motors, the driver motors run the motors in turn.

Keywords : Bluetooth

A MASSIVE MIMO CHANNEL FOR OFDM TRANSCEIVERS USING WINDOW TECHNIQUE

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ABSTRACT

Nowadays data communication needs a large amount of digital data over the wireless channel without distortion and high-quality of signal strength in long distances. In OFDM technology is used for transmitting big amount of digitized data over a radio propagation wave. The function of OFDM is splitting the input signal into sub signal of different bandwidth frequency in simultaneously at the both transceivers section. Transmission signal are orthogonal to each subband frequency and Fast Fourier Transform (FFT) used to spacing between the sub frequency bands. In MIMO, each longitudinal stream is transmitted from different radio wave in the similar frequency channel as the transmitter. The receiver receives the each stream of signal on its traditional equal radio chain error rate is 10 to 15% over the existing windows technique. The effectiveness of The Bit Error Rate (BER) of the MIMO-OFDM system is transmit the each symbol in wireless multipath channel space with orthogonal carrier spacing equal to the reciprocal of the symbol period. In this paper, demonstrate the significantly reduced the Bit Error Rate (BER) using millimeter wave massive MIMO channel model design an optimal hamming window in OFDM system. The demonstrated design simulation result of hamming and hanning window is reduced bit the proposed window design is demonstrated by simulation results.

Keywords : MIMO-OFDM, BER

DESIGN AND OPTIMIZATION OF CNT AS DIPOLE ANTENNA FORRFID APPLICATION

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ABSTRACT

This paper examines the potential of using composites made of carbon nanotubes (CNTs) instead of copper in dipole antenna structures, particularly for RFID applications operating at 13.5MHz. The study involves designing and analyzing the performance of dipole antennas made of CNT composites and comparing their performance with copper antennas. The analysis covers various parameters, including return loss, gain, and radiation pattern. The simulations were performed using HFSSSTM v13, and the results are presented.

Keywords : CNT, RFID

ISOLATION ENHANCEMENT OF ORTHOGONALLY POLARIZED UWB MIMO ANTENNA WITH PARASITIC ELEMENT

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ABSTRACT

A 2*2 Multiple Input Multiple Output (MIMO) Antenna with a parasitic element placed in-between for Isolation enhancement, to find application in Wi-Fi, WLAN, Wi-Max and 5G, has been presented. The proposed design has two antenna configurations to implement MIMO technology which can enhance the data rate, transfer rate of the information signal. These 2 antennas have been positioned orthogonally and further aided with a patch called the parasitic element which enhances the Isolation property of the antenna. The parasitic element consists of custom designed patch structure which improves the working principle , the element is intended to. The base and the patch have been designed using Copper metal, and the Ground is made up of FR-4 Substrate with an Epsilon value of 4.4, that is ideal for commercial antenna usage. The proposed MIMO antenna resonates at a frequency of 5.8 GHz. The Isolation parameter S12 has a value of -30dB which supports the novelty of this paper. The designed antenna has a reflection coefficient of -53dB . Due to this fact, it can be used in the ISM band and also can be implemented in the Sub-6 GHz band for 5G Application in the future.

Keywords : MIMO, WLAN

AUTOMATED HUMAN FOLLOWING TROLLEY

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ABSTRACT

A robot which can help us in many fields like carrying items and work with more accuracy in less time in every kind of work. A robot that can help us in a hospital or to bring medical items in any emergency case will be more helpful for a doctor in emergency cases. This type of robot has so many benefits and it will be helpful in the future. This project is made to follow the right human or object. In this robot, vision sensors are used to move the robot in every direction. We used the Arduino Uno microcontroller as the brain for this project. This robot is driven with four Dc motors, and it is controlled by a motor driver shield with AT mega L293d. The main objective of designing this useful project is to make our life better and luxurious. In this project, a robotic car senses the human with a MU vision sensor and RSSI module automatically and follows the human and avoids obstacles. This type of robot will be more useful, and it will be a trend in the future.

Keywords : RSSI module, MU vision sensor

PERSONAL WEIGHT PICKING ROBOTIC ARM WITH IOT USING NODEMCU

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ABSTRACT

This project seeks to create a robotic arm with IoT (Internet of Things) capabilities using NodeMCU. The Robotic Arm will be created to carry out a number of functions, including picking up, moving, and setting down things. Users will be able to manipulate the arm remotely from anywhere in the world thanks to an internet connection. The NodeMCU board will act as the primary controller, and its integrated Wi-Fi module enables internet-based connectivity with other devices. The project will entail creating the Robotic Arm, writing code for the NodeMCU board, and incorporating the required hardware and sensors. This Robotic arm has 3DOF (Degree Of Freedom). This project's overall goal is to show how IoT and robots may be used to provide practical and effective solutions for a range of applications.

Keywords : IoT

LINE FOLLOWER ROBOT USING ARDUINO

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ABSTRACT

Robotics plays an important role in the global economy and in everyday lives. Robotics technology is in high demand across a wide range of applications and human activities, particularly in the manufacturing, medical, service, defence, and consumer industries. Line follower robots are autonomous robots that follow a line until it disappears. The line is usually painted on the floor. It comes in either black or white. The line might alternatively be a standard visible colour, a magnetic field, or an electric field. The robot follows the line using Infrared Ray (IR) sensors. These sensors detect the line and communicate the data to Arduino, which controls the movement of the robot.

Keywords : IR, Robotics

AIR QUALITY MONITORING AND ALERT SYSTEM FOR INDUSTRIAL ZONE PROXIMITY RESIDENTIAL AREAS USING IOT

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ABSTRACT

According to the World Health Organization, the effects of toxic gases and suspended particles are particularly noticeable in residential areas. Millions of diseases and fatalities have been caused globally as a result of these emissions, which are connected to human activities. The planning and execution of the electronic prototype employing IoT, cloud storage, and processing services are described in this study. This system monitors the air quality in real-time using CO₂ and methane sensors and alerts emergency services including the fire department, ambulance service, police, and others.

Keywords : IoT, cloud storage

ENHANCING SKIN CANCER DIAGNOSIS USING DL WITH 3D MODEL

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ABSTRACT

Skin cancer is a life-threatening disease that can be cured if detected in its early stages. The diagnosis of skin cancer is often challenging and requires skilled medical professionals. Deep learning models have shown promise in detecting skin cancer from images with high accuracy. In this project, we propose a convolutional neural network (CNN) model to predict skin cancer from skin lesion images.

The model was trained on a dataset of over 10,000 images and tested a separate set of 5,105 images. We also developed a web-based application that allows users to upload their skin lesion images to the model and obtain a prediction of the cancer type. The output is a cancer type with a 3D image of the skin lesion that can aid in visualizing the extent of the cancer. Our results show that our model achieved an accuracy of 94%, which outperforms previous state-of-the-art methods. Our web-based application provides a user-friendly tool for the early detection of skin cancer.

Keywords : Skin cancer, Deep learning

SMART BANK LOCKERS SECURITY SYSTEM USING FINGER VEINS VERIFICATION

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ABSTRACT

According to the survey every year 42 percent of bank robberies due to insecurities. This paper mainly focused on ensuring security during robberies in bank lockers. Banks is the one of the most Secured place to keep our valuable things. The proposed automated safety vault includes three step verification processes such as face Recognition, Iris Recognition and Veins verification. After three success verification process, the authority can access the vault. In case of any attempt to open the vault without proper guidance, the alarm will be indicating at the security monitoring place and SMS will be sending to the concern Authority.

Keywords : Deep learning

WIRED AND WIRELESS TELECOMMUNICATION

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ABSTRACT

Wired communication refers to the transmission of data or information through a physical medium, such as a cable or wire. This can include technologies such as Ethernet, fiber-optic cables, and coaxial cables. Wired communication is typically more reliable and secure than wireless communication, as the physical connection is less prone to interference and hacking. Wireless communication, on the other hand, refers to the transmission of data or information through the airwaves without the use of physical wires or cables. This can include technologies such as Wi-Fi, Bluetooth, and cellular networks. Wireless communication allows for greater flexibility and mobility, as devices can connect to networks without being physically tethered to a cable or wire. However, wireless communication is more susceptible to interference and security breaches, as signals can be intercepted or disrupted by other devices or environmental factors. Both wired and wireless communication have their advantages and disadvantages, and the choice of technology depends on the specific application and requirements. For example, wired communication may be more suitable for situations where reliability and security are crucial, such as in banking and financial institutions, while wireless communication may be more suitable for situations where mobility and flexibility are important, such as in mobile devices and smart homes.

Keywords : Wired communication

SMART GLOVE FOR DEAF AND BLIND PERSON

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ABSTRACT

In Our World, It Is Difficult For A Deaf Or Blind Person To Communicate With Other People. But Under Our Project, A Deaf Or Blind Person Can Be Able To Communicate With Others. This Can Be Done With The Aid Of A Flex Sensor, Nrf24l01, Buzzer , And Arduino Uno. In This Project, A Disabled Person Holds A Glove With An Arduino Connected With Flex Sensors And Nrf24l01, While Another Arduino Uno Connected With Nrf24l01 Is Kept Near By The Disabled Person. When A Disabled Person Needs To Communicate With Others, He Shows Some Signals With His Hand, The Buzzer Will Create Sound Then The Other Person Can Notice And Take Actions . They Connect With The Aid Of Nrf24l01.

Keywords : Nrf24l01, Buzzer

AI BASED LIGHTING & SAFETY SYSTEM FOR HEMM

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ABSTRACT

This paper presents an AI-based lighting control system for heavy earth-moving machinery that enhances worker safety during low ambient light or nighttime and improves power consumption. The proposed model utilizes an AI camera to detect the presence of a human and automatically turns on the light mounted on the machinery for safe climbing and work. Additionally, the system optimizes power consumption by adjusting the brightness of the light according to the worker's proximity. The system has been designed to be cost-effective and easy to install, making it suitable for various types of heavy machinery. The paper discusses the system design and implementation, including the AI algorithms used for human detection and power optimization, and it provides experimental results demonstrating the effectiveness and reliability of the system. The proposed model has the potential to significantly improve worker safety and reduce power consumption in heavy machinery operations during low-light conditions.

Keywords : AI-based lighting control system, heavy earth moving machinery, worker safety, low ambient light, night time, human detection, power consumption optimization, cost-effective.

WATER QUALITY MONITORING SYSTEM

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ABSTRACT

Water quality monitoring system consists of various sensors and devices that measure temperature, conductivity, and total dissolved solids (TDS). TDS is a measure of the number of substances in water and is often used as an indicator of water quality. A TDS sensor measures the conductivity of water and converts it into a TDS reading, which is expressed in units of parts per million (ppm). High levels of TDS in water can indicate the presence of pollutants, pH is a measure of the acidity or basicity of a solution and is expressed on a scale of 0 to 14, where 7 is neutral, less than 7 is acidic, and greater than 7 is basic. In water quality monitoring systems, pH sensors are used to measure the pH of water samples and to determine if the water is acidic, neutral, or basic. The pH of water is an important indicator of water quality as it affects the solubility and toxicity of contaminants and can impact the growth of aquatic organisms. The data collected by these sensors is processed and analysed to determine the overall quality of the water. The results of the analysis can be used to identify potential pollution. The information gathered by a water quality monitoring system is crucial for the management of water resources and the protection of public health.

Keywords : TDS

A REAL TIME CLOUD BASED PATIENT CENTRIC MONITOR USING COMPUTATIONAL HEALTH SYSTEM

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ABSTRACT

The use of healthcare IoT can enhance patient care and the quality of services provided by healthcare professionals and organizations. Wireless healthcare monitoring systems have revolutionized the medical field and are widely used in hospitals and other healthcare practices. However, it is crucial to implement a systematic approach for security and privacy measures in device manufacturing, interconnecting things, communication, data handling and storage, and destruction of devices and data. Storing patient health records in IoT can enable healthcare workers to retrieve them during emergencies to provide proper treatment based on the patient's past records. IoT systems are rapidly growing in many sectors, including healthcare services, and provide promising technological, economical, and social potential. IoT capabilities, such as remote patient monitoring, real-time diagnosis of medical issues, and more, can improve healthcare services' quality and satisfaction. The Internet of Medical Things (IoMT) is gaining momentum as wearable devices and health monitoring applications increase popularity. The IoMT plays a significant role in reducing death rates by detecting diseases early. However, the prediction of heart disease remains an essential challenge in clinical dataset analysis.

Keywords : IoMT, IoT

WOMEN'S SAFETY DEVICE WITH GPS TRACKING AND ALERTS

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ABSTRACT

This paper proposes a women's safety device equipped with GPS tracking and alerts to provide women with a sense of security and peace of mind. The device includes a small, portable GPS tracker that can be easily carried in a pocket or purse. When activated, the device sends real-time location updates to a designated contact or emergency response center, allowing for quick and effective response in case of an emergency. Additionally, the device is equipped with various sensors such as accelerometers and gyroscopes that can detect sudden movements or impacts, triggering automatic alerts to designated contacts. The device is user-friendly, customizable, and can be connected to a smartphone app for enhanced features and functionality. This paper discusses the technical aspects of the device, its potential impact on women's safety, and the challenges in developing and deploying such a device in different regions and contexts. Overall, the women's safety device with GPS tracking and alerts has the potential to significantly improve women's safety and reduce the prevalence of gender-based violence.

Keywords : GPS, Women's safety

TOOL FOR MONITORING GROUND PERSONNEL

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ABSTRACT

The device for checking ground faculty utilizing NFC (Close to Handle Correspondence) innovation is a cutting edge framework intended to improve security and effectiveness in different modern settings. This instrument utilises NFC-empowered wearable gadgets that empower constant monitoring of the work force's area and development. The framework uses NFC labels introduced in assigned regions to follow work force passage and exit, guaranteeing consistency with security conventions and lessening the chance of mishaps. The dashboard furnishes supervisors and security faculty with constant information on staff exercises and wellbeing status, taking into consideration proactive security measures and improvement of work force sending. With this device, associations can further develop society's well-being, lessen the chance of mishaps, and increase efficiency. The NFC-based observation framework is a solid and practical answer for businesses that focus on staff wellbeing and execution. NFC (Close to Handle Correspondence) is a remote correspondence innovation that empowers two electronic gadgets to convey and trade information when they are within a couple of centimetres of one another. It is a subset of the RFID (Radio Recurrence Distinguishing Proof) innovation that works on a similar recurrence as RFID, however with a more limited range. NFC innovation is utilised in different applications, for example, contactless payments, information sharing, and access control. It takes into consideration secure and quick information trade among gadgets, and it is turning out to be increasingly well known because of its usability, security, and similarity with many gadgets. NFC innovation is utilised in numerous enterprises, including retail, transportation, medical care, and assembly, to improve proficiency, comfort, and security.

Keywords : RFID, NFC

IOT BASED SMART STREET LIGHT SYSTEM

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ABSTRACT

An IoT based smart street light system which is a low-cost energy efficient solution that can be used to manage and control street lights in real time. The proposed system is designed to use solar energy as the main source of power and is equipped with a motion sensor which helps in detecting the presence of pedestrians or vehicles, and thus switching the lights on and off accordingly. The system is designed to provide a better user experience by providing features such as real-time monitoring, remote control, and automated control. The system also includes a cloud platform that can be used for data storage and analysis. The system is implemented in a laboratory set-up and results show that the system is efficient and reliable. The proposed system consists of a Raspberry Pi as the main controller, an infrared (IR) sensor for detecting the presence of a pedestrian or vehicle, and a Light Dependent Resistor (LDR) for detecting the ambient light intensity.

Keywords : Energy efficient, Microcontroller , IoT

AUTOMATED CAR UNDERBODY INSPECTION USING IMAGE PROCESSING

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ABSTRACT

The method to automatically look at the underbody of a vehicle with image processing technology is proposed in this project. An inspection takes place by capturing a picture of the vehicle's chassis and preprocessing it to remove noise and improve its image quality. Once these images have been compiled, a combination of computer vision algorithms, including object detection and classification, is applied to determine and locate all components of an underbody, for example, the exhaust system or suspension. Several advantages, including faster and more accurate detection as well as the possibility to identify and diagnose potential problems which cannot be detected by the naked eye, are available from the proposed approach over traditional manual inspection methods. In addition, the system can be applied cost-effectively to producers and service centers and is simple to integrate with current production lines. The results of the trial have shown that this proposed method is capable of accurate identification and localization of various parts of the vehicle underbody, to achieve high levels of accuracy and reliability. The results demonstrate that image processing techniques can be used to automatically inspect complex machines, thereby highlighting the need for more research in this area.

Keywords: Underbody inspection, Image Processing Technology, computer vision algorithm, Object detection, Production lines, Automatic Inspection, Accuracy, Reliability.

SMART POWER TRACK: REAL TIME ELECTRICITY USAGE MONITORING

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ABSTRACT

Energy is very important in the entire evolution process and the survival of the world. Electrical energy is one among them. The demand for an increase in electrical energy hurts the environment and increases pressure on our government. This energy demand in our country is increasing exponentially. Energy conservation is the best solution for rising energy demand. The conservation of energy reduces energy consumption by using the best energy service to minimize the amount of power which is consumed by houses or small industries. We are developing an application for monitoring the usage of electricity and its cost of it. It is a software application that can be installed on mobile phones or tablets, which allows users to monitor and track their electricity usage and their cost. It also monitors the electricity used by individual appliances. This helps us to make sure that people pay reasonable rates and do not overspend on electric charges. This type of application typically uses data from monitoring devices to provide real-time or historical information about electricity consumption. It also allows user to set usage goal, track their progress, and receive alerts when usage and cost exceeds a certain threshold. So people can consider reducing the cost while sticking to services that they are already using. The process of reducing monthly electricity expenses starts by monitoring them. Then comes the analysing part where people can see how energy is consumed around home compared to monthly fees, notice what they pay for the most, and understand where they overpay. As a result, people are aware and able to reduce the usage of power as well as can reduce costs.

Keywords: Electrical energy

ENHANCING CACHE UTILIZATION IN SOCIAL WIRELESS NETWORKS VIA COOPERATIVE CACHING TECHNIQUES

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ABSTRACT

This paper introduces an optimal cooperative caching policy for minimizing electronic content provisioning cost in Social Wireless Networks (SWNETs). The SWNETs are typically formed by a collection of mobile devices, such as data enabled phones, net-books, electronic book readers etc., sharing common interests in electronic content, and physically gathering in settings such as University campuses, work places, malls, airports, train stations and other public places. Electronic object caching in such SWNETs are shown to be able to reduce the content provisioning cost which depends heavily on the service and pricing dependencies among various stakeholders including the content provider, the network service provider, and the end consumers.

Keywords: Electronic object, SWNET

A RASPBERRY PI BASED MOCCASIN PROTOTYPE FOR TYPHLOTIC PERSON

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ABSTRACT

In this paper a prototype on smart electronic assistance to typhlotic person is proposed. The system is made up of an ultrasonic sensor, a camera, a Raspberry processor, and a headphone. The objective of this work is to develop an electronic toolkit that will let blind people to navigate a path without obstructions. If an obstruction is encountered, an indicator will be communicated by one ultrasonic sensor within the moccasintype shoe. This unit will take the instruction through the Raspberry Pi, that will make a sound in earphone. The camera is interfaced with the unit through wire from eyeglasses to assess the objects and the developed system informs the user through the audio message. The smart moccasin is a simple and superior choice for assisting orientationally blind and training them to move autonomously and securely using their remaining senses.

Keywords: Sensors

SEA-WAY BORDER ALERT SYSTEM IMPLEMENTATION OF MACHINE LEARNING ALGORITHM & RSSI

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ABSTRACT

The technology proliferation of Received Signal Strength Indication (RSSI) is used to provide location based positioning and time details in all climatic conditions and even anywhere any time. This method focuses on implementing border identification system for all boats. However, the existing system is not powerful enough to prevent the crime against fishermen as it gives only the information about the border identification but not about the exact distance that the boat has travelled from the border the proposed system's transmitter section includes microcontroller RSSI module, voice playback circuit and DC motor and the receiver section includes RSSI. The machine learning algorithm is used to predict the future rain fall for assistive system.

Keywords: RSSI module

IOT BASED SMART WATER QUALITY MONITORING SYSTEM

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ABSTRACT

In world, India ranks second in higher population next to China in the year of 2022. But India would become first due to many issues. The main reason to quote this statement is to prove the scarcity of the daily need "WATER". Water is the basic need of human in day-to-day life. But the world contains around 71% of water in that 97% is of ocean water and 3% of fresh water. That fresh water is also polluted by human. At the same time, human is affected by drinking this polluted water. Many are suffered or died by the diseases caused by the impurified water. It will be unbalance to the ecosystem. If water pollution is detected in an early stage, suitable measures can be taken and critical situations can be avoided. To make certain the supply of pure water, the quality of the water is analyzed in real-time. The process is done by "TOC sensors", which is used detect the pH level and quality of water, the turbidity and conductivity of water is also examined because fresh water is a good resistor. The cloud server is used to detect quality of water. Overall water quality observing framework comprises of different sensors such a pH sensor, turbidity sensors, temperature sensors, conductivity sensors, dampness sensors and numerous different sensors. Here we propose quality of water.

Keywords: PH sensors, dampness sensors

EXPORT SCENARIO IN INDIAN AGRICULTURE

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ABSTRACT

India is one of the largest agricultural product exporters in the world. During 2021-22 the country recorded US\$ 49.6 billion in total agriculture exports with a 20% increase from US\$ 41.3 billion in 2020-21. India's agriculture sector primarily exports Agri & allied products, marine products, plantation, and textile & allied products. Agri & allied products exports were valued at US\$ 37.3 billion, recording a growth of 17% over 2020-21. Rice is the largest exported agricultural product from India and contributed to more than 19% of the total agriculture export during the year 2021-22. Sugar, Spices and buffalo meat are among the largest exported products with the contribution of 9% ,8% and 7% to 2021-22 agriculture exports, respectively. Wheat exports were valued at US\$ 2.1 billion in 2021-22 after recording significant growth over exports of US\$ 568 billion in 2020-21. Coffee exports have crossed US\$ 1 billion for the first time, which has improved realizations for coffee growers in Karnataka, Kerala and Tamilnadu. Higher exports, of marine products, at US\$ 7.7 billion, is benefitting farmers in coastal states of West Bengal, Andhra Pradesh, Odisha, Tamilnadu, Kerala, Maharashtra and Gujarat. The government's commitment to increase farmers' income can be seen through significant rise witnessed in Agri- exports through giving thrust on boosting exports. Various initiatives taken by the government through APEDA such as organizing B2B exhibitions in different countries, exploring new potential markets through product specific and general marketing campaigns have worked as catalyst to growth exports. The government of India has created products matrix for 50 agricultural products with strong export potential and recognized 220 labs to provide services of testing a widerange of products to enable exporters across India.

Keywords: Agriculture, APEDA

CAR ACCIDENT PREVENTER

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ABSTRACT

Advancement in safety systems has resulted from the automotive industry's emphasis on safety. The Smart Safety System for Cars combines a number of security elements, including alcohol, fire, vibration, and gyroscope sensors. As a further measure of safety for drivers and passengers, the system analyses real-time data from these sensors. The GSM modem makes it possible for the automobile to communicate with the outside world, and the GPS tracks your whereabouts to help you respond to situations more quickly and effectively. Averting potential catastrophes is made possible by the Smart Safety System for Vehicles, which can identify potential hazards like alcohol consumption and orientation deviations early on. The technology notifies authorities and emergency contacts when there is a crisis, greatly speeding up the time it takes for help to arrive. The Smart Safety System for Cars has the additional advantage of lowering the amount of collisions brought on by inattentive driving. The technology can alert drivers to potential threats and aid in the prevention of distraction-related accidents by being able to detect anomalous vibrations and the orientation of the vehicle. The Smart Safety System for Vehicles can prevent potential catastrophes by identifying potential hazards like alcohol consumption and orientation deviations early on. Emergency response times are significantly improved when the system sends alerts to authorities and emergency contacts. A positive development is the Smart Safety System for Vehicles, which guarantees a higher level of security for drivers and passengers and has the potential to save lives.

Keywords: GSM modem, Smart Safety

A BALANCED ROUTING PROTOCOL GROUNDED ON MACHINELITERACY FOR AQUATIC SENSOR NETWORK

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ABSTRACT

An underwater sensor network (UWSN) is a Wi-Fi community that is deployed in oceans, seas and rivers for real-time exploration of environmental conditions. The community is used to measure temperature, pressure, water pollution, oxygen level, volcanic activity, floods, and water streams. Although radio frequency (RF) is extensively utilized in Wi-Fi networks. It is incompatible with the UWSN environment; therefore, different verbal exchange mechanisms have been employed to manipulate the underwater wireless communication amongst sensors such as acoustic channels, optical waves or magnetic induction (MI). Unlike terrestrial WiFi sensor networks, UWSNs are dynamic, and sensors pass in accordance to water activity. Therefore, the community topology modifications rapidly. One of the most indispensable challenges in UWSNs is how to acquire and route the sensed information from the dispensed sensors to the sink node. Unfortunately, the direct application of environment friendly and well established terrestrial routing protocols is no longer viable in UWSNs. In this work, a balanced routing protocol primarily based on computer studying for underwater sensor networks (BRPML) is proposed that considers the UWSN environmental characteristics, such as strength barriers and latency while thinking about the void place issue. It is primarily based on reinforcement studying (Q-learning), which objectives to reduce the Community latency and electricity consumption of UWSNs.

Keywords: BRPML, UWSN

LORA BASED HEALTH MONITORING IN ICU

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ABSTRACT

The healthcare industry has been transformed by the Internet of Things (IoT), which provides individuals with new and enhanced experiences through the use of interconnected devices and sensors. In the Intensive Care Unit (ICU), monitoring patients' vital signs is critical, as even the slightest delay in making treatment decisions can result in permanent disability or death. However, manual monitoring can become a daunting and nearly impossible task, particularly when dealing with multiple patients, making it challenging to provide real-time updates on health parameters such as temperature, oxygen saturation, pulse rate, blood pressure, and heart rate. The LoRa-based system offers a solution to automate the monitoring process, enabling constant and accurate monitoring and updating of patient data. The project aims to utilize the LoRa wireless system to transmit data from sensors to a cloud or computer to create a smart and connected environment. IoT-based smart healthcare is an essential application of the Internet of Things, where sensors attached to the patient's body gather health data transmitted through a secure communication channel provided by a LoRaWAN network architecture to a data analysis module. This innovative health monitoring strategy leverages the capabilities of the IoT to provide efficient and effective medical care. The ARDUINO-UNO board acts as a microcontroller, and Cloud computing concept is used to store and analyze the collected data, enabling further evaluation and decision-making.

Keywords: ARDUINO-UNO, Internet of Things

INTEGRATED AMBULANCE SYSTEM USING TELEGRAM CHANNEL

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ABSTRACT

In India, during the alternate surge of Covid- 19 Epidemic, nearly all city hospitals beds were filled and the entire health department collapsed with lot of issues such as waiting outside the sanatorium due to the attainability of Beds, Ventilators, Medical ICU etc., which leads to death inside the ambulance itself. In a critical case, it's delicate for the entire family to track their close people and decide going to which sanatorium. So, the board keeps required details and it'll post in Local Hospital Telegram Community channel where a family member can join fluently. This reduces the corruption in hospitals by denying the vacancy of medical systems and the corruption of ambulance motorists for diverting the cases to the sanatorium, which pays him a bribe.

Keywords: Ventilators, Medical ICU

VOICE CONTROLLED SMART WHEELCHAIR

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ABSTRACT

In this paper, we present the design and implementation of a voice-controlled smart wheelchair with Bluetooth capability. The proposed system enables people with disabilities to control their wheelchairs using their voice and a Bluetooth-enabled device such as a smartphone or tablet. The system includes a voice recognition module, a Bluetooth module, a microcontroller unit, and a motor driver circuit. The voice recognition module detects the user's voice commands and converts them into digital signals, which are then transmitted to the microcontroller unit via the Bluetooth module. The microcontroller unit processes the signals and controls the motor driver circuit to move the wheelchair accordingly. The proposed system was tested and evaluated in terms of accuracy, response time, and user satisfaction. The results showed that the system was accurate and responsive, and users were highly satisfied with its performance.

Keywords: Voice Controlled Wheel Chair, Assistive Technology, Disability assistance.

CONTAGIOUS DISEASE PREDICTION USING NAIVE BAYES CLASSIFIER

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ABSTRACT

Disease prediction is a crucial task in the healthcare sector as it helps in the early identification and timely treatment of diseases. Traditional methods of disease prediction involve manual approaches that are time-consuming and prone to errors. In such situations, the evolution of technology plays an important role. Developing a medical system based on Machine Learning algorithms in disease prediction helps in providing more accurate results than any other methods. We used a publicly available healthcare dataset for our experiments. In this paper, we present an application of Naïve Bayes and the Decision Tree algorithm for identifying a particular disease. Our results show that the combination of both algorithms has good accuracy in disease prediction. The output of the prediction system is the disease that an individual might be suffering from. This paper mainly emphasizes on how to find a disease by providing ailment, in order to get in contact with their doctor to ensure the treatment is taken at a preliminary stage.

Keywords : Disease prediction, Naïve Bayes

SMART AGRICULTURE MONITORING AND CONTROLLING

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ABSTRACT

Conventional horticulture strategies are in many cases and work serious, prompting diminished efficiency and productivity. Moreover, unusual weather conditions, changing environment conditions, and expanded interest for food creation require innovations that can give continuous checking and remote controlling of horticulture activities. IOT-empowered horticulture frameworks offer an answer for these difficulties by giving computerized, precise, and ongoing observing of harvests, soil, and environment conditions. Due to the execution of these frameworks which faces difficulties like absence of normalized structures, high starting expenses, and restricted availability to innovation in country regions. Consequently, the issue proclamation is to avail a minimal expense and versatile brilliant farming framework that can give constant observing and controlling of horticulture tasks, working on rural efficiency, and maintainability.

Keywords: Conventional horticulture

DEEP LEARNING FOR ANTENNA PARAMETER OPTIMIZATION IN WIRELESS COMMUNICATION

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ABSTRACT

Communication technology in recent days has undergone rapid growth and the need to improve the performance of antennas has also got its equal importance. The inclusion of the optimization methods satisfies the need to increase performance. In this paper, the inset-fed rectangular patch antenna is optimized using Deep learning along with Particle Swarm Optimization (PSO). The neural network is trained using the datasets and PSO is adapted to optimize the antenna parameters. The relationship between the antenna parameters and model parameters is obtained as the output of the neural network. The antenna designed from the output of the neural network is found to have the best performance in terms of directivity, gain, efficiency, and miniaturization. The simulated results show that the antenna has a 24% reduction in size and a 70% improvement in efficiency and is used for applications in the 5.8 GHz (ISM band).

Keywords: Communication technology, Particle Swarm Optimization (PSO)

DESIGN OF HIGH GAIN MICROSTRIP PATCH ANTENNA WITH FREQUENCY SELECTIVE SURFACE FOR 5.8 GHZ ENERGY HARVESTING APPLICATIONS

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ABSTRACT

A rectangular microstrip patch antenna integrated with a Frequency Selective Surface (FSS) with an operating frequency of 5.8 GHz for energy harvesting applications is proposed in this paper. With the help of the Computer Simulation Technology (CST) studio suite, a rectangular microstrip patch antenna with an inset feed is simulated and constructed using the quarter-wave impedance matching technique. In order to establish a consistent frequency response, the antenna's performance is initially analyzed concerning reflection loss (S11), directivity and antenna gain, and the antenna is then integrated with the FSS structure. After introducing FSS, the gain is improved by 3.38 dBi.

Keywords: Frequency Selective Surface, Computer Simulation Technology

DETECTION OF CANCER USING MACHINE LEARNING

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ABSTRACT

Cancer is a chronic condition that affects people of all ages. By using diagnostic medical techniques such as X-ray scans, CT scans, and PET scans, the overall purpose is to accurately determine the afflicted area. Cancer happens over time as cancerous cells multiply and grow and sometimes spread (by metastasis) from where they started to other areas of your body. The first step is to identify the primary location, or the organ or body part where the disease first appears. Rarely, despite intensive testing, it is impossible to pinpoint the cause of a malignancy. Machine learning is being used for cancer diagnosis and detection. The basic idea to determine cancer is to use a camera to capture images of the tissue sample which are then processed using image processing algorithms to determine whether the tissue is affected by cancer or not. This can be accomplished by photographing the sample human tissue using a camera module. The acquired images are preprocessed to improve their quality and remove any blurred or smudged background. Once the sample tissue has been isolated, characteristics such as color, texture, and shape can be extracted. Then, using these features, a machine learning model is trained to classify the sample tissue as cancer affected or normal tissue. CNN classifier is used to classify and record the image. It has to be trained using various sample tissue pictures which are captured in different angles. Once trained, the model can be used to predict the percentage of the cancer cells found per unit of tissue. This is a promising vision of machine learning that helps identify cancer at early stages and reduces cancer risks.

Keywords: CNN classifier, X-ray scans

IOT BASED SMART ENERGY METERING AND POWER THEFT CONTROL USING WSN

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ABSTRACT

Electricity, the most usable structure of power is used widely via the total world. With the evolution of modern technology, the utilization of electrical energy is escalating gradually. But the manufacturing of electrical energy is constrained due to deficiency of resources. So energy need to be used in a conciseway. In many countries, electrical Energy is measured through energy meter which is inspected via a human. According to their inspection, the electric bills are organized and most regularly these are organized on the basis of assumption which ought to be inaccurate, costly, and time-consuming as properly as error prone. Due to the absence of ordinary monitoring system, from time to time purchaser use electrical power month after month besides paying any bill. Digital billing device is a sort of machine which would be capable to avoid typical meter reading, store human resources, improve the accuracy and forestall the energy theft. The main objective of this project is to indicate electric power theft to electricity board. It is carried over through IOT Technology. Applying the Adhoc Network for transferring the data through wireless connection. A cluster of every Individual user's data can be send to the header node. These data can be directly send to the provider service using ESP8266 through IOT. Using Adhoc Network, it can reduce the internet usage. This system is capable of measuring powersent over the load sand power consumed by the load over the time respectively. Parameters are monitored through IOT. This system will alert the user through the user regarding the payment. If the user doesn't pay the bill, the system will automatically trip the system.

Keywords: IOT, Adhoc Network

FACE MASK RECOGNITION AND SOCIAL DISTANCE MONITOR FOR COVID PANDEMIC

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ABSTRACT

The global pandemic of COVID-19 has severely impacted the world and has now infected more than eight million people worldwide. Wearing face masks and following safe social distancing are two of the enhanced safety protocols need to be followed in public places in order to prevent the spread of the virus. To create safe environment that contributes to public safety, we propose an efficient computer vision-based approach focused on the real-time automated monitoring of people to detect both safe social distancing and face masks in public places by implementing the model on computer to monitor social Distance and detect violations through camera(webcam/Phone) or a Network connected device. We proposed system favors the society by saving time and curbing the spread of disease and reducing the overall case count. It can be implemented effectively in current situation where strict public safety measures is highly needed in situations such as public gatherings, shopping malls, cinemas, grocery store etc. Automated inspection reduces manpower to inspect the public and also can be used in any place. This system also had voice alert for social distancing and facemask.

Keywords: webcam, global pandemic

WATER QUALITY MONITORING FOR INDUSTRIES

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ABSTRACT

Water quality monitoring is essential in industrial processes to prevent environmental pollution and protect public health. This paper discusses the importance of water quality monitoring in industries, including the need to comply with regulations and prevent contamination incidents. The paper provides an overview of the different methods of water quality monitoring, including physical, chemical, and biological methods, and the use of advanced technologies such as sensors and remote monitoring systems. The paper also highlights the benefits of water quality monitoring, such as early detection of contamination, improved efficiency, and reduced liability. In addition, the paper discusses the challenges associated with water quality monitoring, including the cost and complexity of monitoring programs, and the need for skilled personnel and data interpretation. Case studies are presented to illustrate the application of water quality monitoring in various industries, including manufacturing, mining, and agriculture. The case studies show the effectiveness of water quality monitoring in preventing contamination incidents, reducing environmental impact, and improving the overall sustainability of industrial operations. Overall, this paper emphasizes the importance of water quality monitoring in industries and the need for a comprehensive monitoring program to ensure the safety of the environment and public health. The paper provides useful insights for industry professionals, regulators, and researchers interested in improving water quality monitoring practices in industrial settings.

Keywords: Water quality monitoring, sensors

PLC BASED MULTICHANNEL TEMPERATURE MONITORING & CONTROLLING SYSTEM

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ABSTRACT

This paper presents the design and implementation of a Programmable logic Controller (PLC) based multi-channel temperature monitoring and controlling system. The system consists of a PLC, temperature sensors, and a user interface. The temperature sensors are placed in different locations and connected to the PLC to monitor the temperature in the environment. The PLC is programmed to process the data from the sensors, calculate the average temperature, and send an alarm if the temperature exceeds a certain threshold. The user interface is used to monitor the temperature in real-time, as well as to adjust the threshold temperature. The system is capable of controlling multiple temperature sensors, thereby allowing for a more efficient temperature monitoring and control. The system is reliable, cost-effective, and easy to maintain. The PLC is also connected to the Internet of Things (IoT) which allows it to communicate and transmit data to the user. The system is designed to monitor and control temperatures in multiple channels and also provide an alert if the temperature readings exceed a pre-defined threshold.

Keywords: Programmable logic Controller, Internet of Things

DESIGN OF AN ANIMAL DETECTION SYSTEM BASED ON DEEP LEARNING

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ABSTRACT

Due to farmlands or other rural areas, detection is essential to prevent unauthorized people from entering the area and to protect it from animals. Different methods only focus on observation, which is primary for human intruders, but we frequently forget that the animals that destroy the harvests are the farmer's main enemies. One of the major risks in lowering the harvest yield is crop damage caused by animal attacks. Crop striking is one of the most alienating human-wildlife conflicts as a result of the expansion of developed land into former wild-life habitat. It is crucial to effectively and thoroughly check the rights of wild animals in their natural habitat. This initiative fosters an algorithm to recognize the animals that intrudes into the cultivable land. This can be accomplished by applying SSD Mobile Net algorithms which is a powerful real-time object detection algorithm.

Keywords: SSD Mobile Net algorithms, object detection algorithm

WIRELESS VIDEO SURVEILLANCE AND COMMAND THROUGH AUDIO TRANSMITTING SYSTEM IN AERIAL VEHICLE

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ABSTRACT

A drone is defined as an aerial vehicle which uses aerodynamic forces to provide vehicle lift, can be recoverable or expandable, can be piloted remotely or fly autonomously, does not carry a human operator, and can carry a non-lethal or lethal payload. Beforehand, drones were used only for military applications like spying on both international and domestic threats because do not put the life of a pilot at risk in combat zones. In addition, they do not need rest, which enables them to fly as long as there is fuel in the craft. Currently, the developed drones can be used in a vast number of applications, such as deliveries, policing, monitoring flooded areas, and many others that were discussed in this report. The mechanism described in this report targets multiple disciplines that fall under the Mechatronics umbrella, which comprises mechanical, electrical, and digital components. This project focuses on designing and developing Wireless video surveillance and command through Audio Transmitting system in aerial vehicle that can be used in different applications, specifically in Monitoring and for conversation. Different analyses were made on the drone to choose the best available material, guarantee its longevity, and ensure its safety. A propeller was analysed as well to determine the air pressure and velocity impact on it. Besides, the flight dynamics of the system and the reasons why each component was chosen were explained in detail. In addition, mathematical equations to better understand the system's flight dynamics and electrical calculations to determine the flight autonomy were clearly shown and explained.

Keywords: Aerodynamic forces, propeller

SMART DEVICE TO AVOID OBSTACLES IN RAILWAY TRACK

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ABSTRACT

Now a days public is facing many threats from the railway department by which they are travel in train. Accidents may occur due to various reasons like an obstacleslike rock , wild animals ,vehicles , human beings on the railway track or near the railway gate, fire inside the train , improper track changing . This project has designed asystem which will help the railway department by overcoming accidents.This project is used to reduced such kind of things before happening. Here obstaclesensor is usedto monitor the track and sense any obstacle, if sensed in short distancesignal is transmitted to the receiver section which will give horn i.e. buzzer and trainstops. If any person or vehicle is trying to cross the railway gate then also train stopsand the gate is kept open by the DC motor for the person or vehicle to pass. Fire sensor is used to detect fire which will buzzer to alert passengers as well run motorto spread water on the fire detected surface. RF transmitter and receiver are used tocontinuously transmit and receive signals to control the movement of train. DC motor is fixed at the railway gate to open and close the gate, as well as spread water based on signal received.

Keywords: DC motor, RF transmitter and receiver

CROP PREDICTION AND FERTILIZER RECOMMENDATION SYSTEM FOR PRECISION AGRICULTURE

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ABSTRACT

India stands second as largest population country in the world and main occupation of people in India is agriculture. Farmers are still using traditional methods for predicting crops and guess the suitable amount the fertilizer randomly based on their experience. This bare assumption will cause serious impact on crop production as well as crop quality. In order to reduce those losses, our proposed system has built a model for prediction of suitable crop to be grown to maximize harvest. Usage of proper amount of fertilizers also plays a vital role in good harvest. Any uncertainty in the ratio may mislead the whole process. Our model also directs the farmers for using appropriate fertilizers and its proper ratio. This system's accuracy metrics is far better than the previous models. Various ML algorithms has been used for predicting the best model among them. Thereby, more precise and efficient system can be delivered.

Keywords: ML algorithms

IOT BASED PARALYSED PATIENT MONITORING SYSTEM

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ABSTRACT

This project proposes an IoT-based system that facilitates contactless communication between paralyzed patients and their caretakers using hand gestures, while also incorporating ECG, pulse, and temperature monitoring. The system utilizes the Arduino IDE software to send and receive notifications based on the direction of the patient's hand movement, as well as to collect and transmit data on the patient's ECG, pulse, and temperature. Cloud technology is used to ensure fast and reliable delivery of the message to the caretaker's mobile device and to store the patient's health data for remote monitoring by healthcare providers. The system is designed to be inexpensive and portable, making it accessible to a wide range of individuals, including visually impaired persons and hospitalized patients. The main objective of the project is to provide a means of fast and easy communication between the patient and their caretaker, while also allowing for remote health monitoring and intervention when necessary. The inclusion of ECG, pulse, and temperature monitoring enhances the system's ability to detect and respond to changes in the patient's health status, thereby improving the quality of life for paralyzed individuals and others who face communication barriers due to their physical condition.

Keywords: ECG, Cloud technology

SECURING BIOMETRIC TEMPLATE USING KNN ALGORITHM

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ABSTRACT

Biometrics are techniques of personal identification that make use of an individual's unique physical or behavioral traits. Identification systems and verification systems are the two types of biometric systems. Identification systems request, "Who are you?" and verification systems request, "Are you who you say you are?" In a modern environment, security has become a primary goal. Hence palmprint identification has a significant role in addressing authentication concerns. This involves image acquisition, pre-processing, feature extraction, and pattern matching. The summing algorithm is utilized to combine the features at the Gabor filter's output. Instead of the conventional hamming distance, the KNN classifier is proposed for pattern matching. The classification performance is then determined by matching the features of test images to those in the database. The proposed method would have a 96% accuracy, with a significant reduction in false rejection and false acceptance rates, demonstrating how efficient it is compared to current approaches.

Keywords: KNN, Gabor filter, Palm vein datasets, ROI, ROC, FAR, FRR, ERR.

DISCERNMENT AND SUPERVISING OF THE MARINE WATER ADULTERANTS BY IMPLEMENTING ARDUINO

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ABSTRACT

Each and every year, Millions and billions of pollutants and plastics were found across the ocean. Where does it come from? How do we clean up? Is it a serious threat to human society? Will it cause serious contamination and spoil the marine wealth of our world? Marine water adulterants are a serious public concern because of its various disadvantages and harmful consequences on living organisms. It is an integration of chemicals and wastes, which may be due to industries and natural outcomes. *Karenia brevis* is the harmful bacteria which causes red tide. The marine water pollution is one of the biggest threats to human society and also for the marine organisms. Plastics are the main perils to the forthcoming generations. The marine water is filled upto 60-90% of micro and macro plastics and other adulterants. Even a plastic bottle can last upto 450 years in the ocean without decomposing. Ocean pollution is whole scale, aggravating and constituting danger to human lives and prosperity. The metals that are found in the ocean are highly malignant which includes mercury, cadmium, selenium, lead and other organic compounds. The marine water pollutants are discharged into the ocean by the three main ways ;1. By land (industrial run-Offs, untreated water, usage of pesticides and fertilizers) 2. By air (usage of harmful gases and burning unwanted chemicals) 3. By transportation (spillage of toxics due to ship wreck). It can be identified by the sensors and by the Arduino. MQ7 PH Sensor, Inductive Proximity Sensor are some of the sensors to detect adulterants in marine ecosystem.

Keywords: *Karenia brevis*, Ocean pollution

EFFICIENT TRAFFIC CONTROL STRATEGY FOR IMPROVING SAFETY AND REDUCING CONGESTION USING ARDUINO

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ABSTRACT

Traffic congestion is a widespread and challenging issue faced by millions of people daily, particularly in India, where it can also be a major obstacle for ambulances transporting patients to hospitals. The traditional fixed-time traffic light system is insufficient to address changes in traffic volume, leading to congestion and delays. To address this issue, our project proposes the development of a dynamic traffic signal system that utilizes density-based sensing technology to adjust signal timing according to traffic density at the junction. We are using an Arduino MEGA 2650 to control traffic lights and an RFID (MF RC522) with an Arduino UNO to prioritize ambulance lanes. During normal traffic, a fixed time is allocated to each lane. When traffic density crosses a predetermined threshold, an Ultrasonic sensor signals the Arduino MEGA to increase the green light duration. Simultaneously, the RFID detects the presence of an ambulance and communicates with the Arduino UNO to prioritize the ambulance lane. In summary, our project aims to develop a smart traffic system that can optimize traffic flow and prioritize emergency services.

Keywords: Arduino MEGA, RFID

ANALYSIS OF EFFECT OF FADING MODELS IN WIRELESS SENSOR NETWORKS

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ABSTRACT

The fading models play a very vital role in the performance of routing protocols in Wireless Sensor Networks. The fading can significantly influence network performance. In this paper, we have used Rayleigh, Fast Rayleigh and Ricean fading models for evaluating their effect in wireless sensor networks. We have used AODV routing protocol for routing data packets from source to destination. We have computed various QoS parameters such as throughput, PDR, average end-to-end delay, jitters. The simulation results show that, throughput and PDR is highest in fast Rayleigh model. The average delay and jitters is minimum in fast Rayleigh model. Overall, the network performance is better when fast Rayleigh fading model is deployed.

Keywords: AODV routing protocol, QoS

INDUSTRIAL AND HOME AUTOMATION USING SPEECH RECOGNITION

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ABSTRACT

The field of automation has seen tremendous growth in recent years, with the development of technologies like machine learning, artificial intelligence, and the internet of things (IOT). One of the most promising applications of automation technology is speech recognition. Speech recognition technology has gained significant attention in recent years, and it is now widely used in various industries and homes for automation purposes. In the context of industrial automation, speech recognition technology is used to control and monitor various processes, machines and equipment. It allows operators to control the machinery and equipment without having to physically interact with them, increasing safety and efficiency. Speech recognition technology also enables workers to access important information, such as safety procedures and maintenance schedules, hands-free, which reduces the risk of accidents and injuries. In the home, speech recognition can be used to control smart devices like thermostats, lights, and appliances. It allows home owners to control the devices using voice commands, making their lives more comfortable and convenient. Moreover, speech recognition can be used to assist people with disabilities or mobility issues, allowing them to live more independently. Overall, speech recognition has enormous potential in the field of automation. As the technology continues to develop and improve, we can expect to see more widespread adoption of speech recognition in industrial and home setting. The implementation of speech recognition technology requires the use of hardware and software. The hardware typically consists of a microphone or array of microphones, which capture the user's speech, and a digital signal processor, which processes the speech and converts it into commands that can be interpreted by the automation system. The integration of speech recognition technology in industrial and home automation systems has the potential to improve efficiency, reduce errors, and enhance user experience.

Keywords: IOT, Speech recognition technology

BLOCKCHAIN TECHNOLOGY

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ABSTRACT

One of the biggest challenges we face today is achieving sustainability goals. From reducing carbon emissions to managing natural resources, we need to find more efficient and effective ways to address these challenges. Traditional systems for managing resources and supply chains are often opaque, inefficient, and prone to corruption. This is where blockchain can help. Blockchain technology can address the root causes of inefficiency and corruption by creating a more transparent and secure system for recording and verifying transactions. This can lead to a more sustainable and equitable distribution of resources, reducing waste and inefficiencies. Blockchain technology has the potential to create a more secure, transparent, and efficient future for various industries, leading to a greener planet. By eliminating the need for intermediaries, blockchain can reduce transaction costs and increase efficiency, ultimately creating a more sustainable and equitable distribution of resources. As we continue to innovate with blockchain technology, we can look forward to more solutions that help us achieve sustainability goals and create a better future for all.

Keywords: Blockchain technology

ORGANIC MUSICAL INSTRUMENT

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ABSTRACT

Organic Musical instrument works based on the resistive touch and ADC of the controller detects the touch and the controller generates the sound at different frequency it can be further amplified for the better amplitude. Resistive Touch is a very simple circuit board and can make any objects become a computer input device when used with open-source ARDUINO control board. This shield has small volume, a USB interface connected to computer and a alligator clip connected to other objects. You can use it combined with Arduino and compile corresponding codes into Arduino to make Maker Touch replace different keys of keyboard. It uses ARDUINO microcontroller to simulate a keyboard and leads out several keys to replace switches as touch switch. Maker Touch employs touch input, namely, a double-contact switch, and leads out both touch port and ground to connect to two touch electrodes. When you touch the two electrodes, there is a certain current flowing through between them because of body-resistor. Detect the current to know touch events.

Keywords: ARDUINO, USB interface

RELIABILITY ESTIMATION OF ELECTRONICS PRODUCTS – A MORE PRACTICAL APPROACH

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ABSTRACT

Reliability estimation of various products is an important activity practiced in the industries in order to obtain information on the reliability performance of the products while greater demand is placed on their intended functions on a day-to-day basis. Different models like MIL-HDBK-217 Revision F, Notice 2, 1995, Hardware Reliability Data, HRD 5, British Telecom Standards, 1995, Reliability Estimation, Telecordia model, issue 1, 2001, by AT & T Bell Laboratories, USA, SIEMENS-NORM SN 29500, Part 1 to 14, 1999 etc., for estimating the reliability characteristic viz. MTBF. These models have unfortunately not gone into the real shop floor situation of a typical industry and thus lack in providing the true estimate of the MTBF value. Therefore, a new methodology was evolved and provided in the present work which takes into account the various failure prone stages of the product development viz. prototype stage, process stage and full-scale production stage. Techniques were evolved to systematically weed out these failures and bring down the inherently high failure intensity to the barest minimum so that the products exhibit on an average constant failure intensity. At this stage it is appropriate to estimate the reliability of the product by practical testing by adopting a suitable test plan. The MTBF estimated for a high speed commercial printer by applying this new model was in the range of 6057 hours and 18007 hours at a confidence level of 70%. The point estimate of MTBF for the product was calculated as 12, 215 hours. The issue here is that the reliability statement is complete, whereas with the existing models we get a point estimate of the MTBF, which cannot be expressed attaching a confidence interval. This estimate is the true estimate of the products' MTBF with a stated high confidence level. Keywords: MTBF, Confidence Level, Reliability, Point Estimate, failure intensity.

Keywords : MTBF, Confidence Level, Reliability

DESIGN OF MICROSTRIP PATCH ANTENNA USING CROSS - SHAPED PATCH APERTURE

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ABSTRACT

In recent years, most wireless communication has used microstrip patch antennae in their system. This paper presents the design of a microstrip patch antenna using 4 cross-shaped patch apertures for obtaining better gain and directivity. The feeding system used in this design is inset feed because it will allow better impedance matching between the feed line and the radiating patch. It increases the bandwidth and reduces the return loss. A rectangular cut has been made for the feed. The substrate used in this design is FR4 since it is easily available and has good dimensional stability, temperature, and environmental resistance. Then by studying the radiation pattern, and radiation pattern parameters and comparing them with their specifications/requirements. As a result, we obtained a better result with greater gain and directivity of the microstrip patch antenna

Keywords: Microstrip patch, FR4, Radiation pattern, inset feed, radiation pattern parameters, gain, directivity

CAMPUS RECRUITING SYSTEM USING HTML

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ABSTRACT

Our college campus recruitment system gives users the choice to log in as a student, a firm, or an administrator. The students can use this software system to build their profiles and submit all their information, including their grades. The administrator can review each student's information and delete any invalid accounts. The system includes a company login so businesses visiting the college can access a list of its students and their resumes. Students can examine a list of businesses that have posted job openings thanks to the software system. The admin can censor and delete any information not related to college placement requirements because they have full control over the system. The idea is advantageous for college students, several employers who visit the campus for recruitment, and even the placement officer for the college. The system manages both student and business data and effectively presents both to the appropriate parties.

Keywords: HTML

BIONIC ARM USING MUSCLE SENSOR

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ABSTRACT

We have presented design and implementation of a 3D printed electromyography based bionic arm, having potential to be used by an upper limb amputee. The user flexes his or her muscles to electronically activate and control the arm. Our main goal was to obtain the fundamental control of the hand at a cost which makes bionic arm accessible to amputees with economic constraints. Although this technology is employed in a number of commercially available prosthetic arms in the global market, but they are not budget-friendly. We have analysed and investigated the several actuation techniques and design parameters used in the commercially available prosthetic hands. Electromyography (EMG) controlled Pulse Width Modulated (PWM) technique has been used for the actuation of servomotors using the microcontroller. The finished 3D model was created using PLA (polylactic acid), and the findings about the mechanical parameters have been briefly mentioned in the paper. This work includes elements from various engineering fields, including Biomechanics, sensors, transducers, feedback, and control system. A creative mechanical design for a 3D printed prosthetic arm is the system's basis. Modern electronic actuators and microelectronic circuitry is responsible for desired motion and enables complex control architectures.

Keywords: Pulse Width Modulated, Electromyography

HYBRID OPTIMIZATION METHOD FOR LUNG DISEASE CLASSIFICATION USING MACHINE LEARNING METHOD

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ABSTRACT

The lung disease prediction use Support Vector Machine(SVM).A Support Vector Machine (SVM) is a deep learning algorithm that performs supervised learning for classification or regression of data groups. The routines utilized as part of this paper work states to group computerized X-beam midsection movies into two classes: ordinary and weird. Diverse learning examinations were performed on two distinctive information sets, made by method for highli ght choice and SVMs prepared with diverse parameter the outcomes are checked out and reported. The lung disease prediction use Support Vector Machine(SVM). A Support Vector Machine (SVM) is a deep learning algorithm that performs supervised learning for classification or regression of data groups. The routines utilized as part of this paper work states to group computerized X-beam midsection movies into two classes: ordinary and weird. Diverse learning examinations were performed on two distinctive information sets, made by method for highli ght choice and SVMs prepared with diverse parameter the outcomes are checked out and reported.

Keywords: Support Vector Machine, Deep learning

AIR QUALITY MONITORING SYSTEM WITH SUBSTATIONS

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ABSTRACT

Industrial and Human activities like transportation, construction, and agriculture can also produce pollutants like particulate matter, nitrogen oxides, and volatile organic compounds, leading to air pollution. Exposure to air pollution can lead to a range of health effects, including respiratory problems, heart disease, stroke, and even cancer. Long-term exposure to air pollution can also have negative impacts on cognitive function and can increase the risk of dementia and Alzheimer's disease. The proposed city-wide air monitoring system which has to be implemented, involves dividing the city into several sub-stations and installing air quality sensors at each sub-station to collect several gases, including: Nitrogen oxides (NO_x) Sulfur dioxide (SO₂) Carbon monoxide (CO) Ozone (O₃) Particulate matter (PM), which includes fine particles (PM_{2.5}) and coarse particles (PM₁₀) Volatile organic compounds (VOCs) Methane (CH₄) so that appropriate measures can be taken to improve air quality.

Keywords: Industrial and Human activities

PRIORITY AND TRAFFIC SENSITIVITY CONTENTION-BASED MEDIUM ACCESS CONTROL FOR WIRELESS SENSOR NETWORKS WITH MULTIPLE EVENTS

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ABSTRACT

High quality of service (QoS) is required in multi-priority commercial and domestic environments. Sensor networks introduce new obstacles to the growing adoption of the Internet of Things. (IoT). Nodes in Multi-event Wireless Sensor Networks (MWSNs) generate various kinds of data packets, such as urgent (high) data packets. With various traffic proportions, you can choose between high priority (high priority) and normal (low priority). High-priority packets necessitate faster transmission and greater network dependability. The current medium access control (MAC) protocols for MWSNs in the literature have limited consideration in supporting data priority with various traffic proportions. As a result, this paper suggests PriTraCon-MAC, an energy-efficient MAC scheme that incorporates data packets with dynamic traffic proportions. PriTraCon-MAC supports multi-events by taking into account four different priority levels of data packets and employing a novel method that adaptively adjusts the contention window. As a consequence, higher-priority data Request-To-Send frames can be sent sooner in the contention window, resulting in faster receiver acceptance. In addition, a mathematical delay analysis with various priority traffic proportions has been performed. Furthermore, PriTraCon-MAC has been implemented in Matlab, and its performance has demonstrated that PriTraCon-MAC has a lower average delay and a considerably higher packet success rate, while consuming up to 80% less energy than the TMPQ-MAC protocol.

Keywords : Internet of Things, MAC protocol, Energy efficient

ANDROID APPLICATION FOR BUS TRACKING SYSTEM USING IOT

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ABSTRACT

In this modern world, smart buildings are become an developing platform using Internet of Things (IoT) , connecting the home appliances with mobile application using IoT are more comfortable. One of the things that can cause a waste of electricity from operating air conditioning system continuously, even though no one present in the room, or the home owner forgets to turn off an air conditioning system while leaving the house. For this reason, we proposed to create a system that can control functioning of an Air conditioning system remotely by applyingthe concept of an Internet of Things (IoT), where control is carried over using an android application based smart phone device. These controls include Power ON & Power OFF process, operating modes and temperature settings, so that operation of AC is more effective and we can avoid wastage of electricity. In this proposal we uses prototyping method, which includes the different stages of literature studies, field studies, data collection, design stages of both software and hardware requirements. In this proposed system AC turned on automatically when a human entered into a hall and remain functioning until the person leave the hall. Once no one present in a hall ac turn off automatically with the help of IoT based android application.

Key words: GPS and IOT based mobile applications

FIRE FIGHTER ROBOT BASED ON RASPBERRY PI

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ABSTRACT

This paper presents the design methodology of a low cost autonomous robot prototype that can detect presence of fire from its surroundings and take necessary measure to extinguish it. Using the mounted camera, this prototype takes continuous video feed of the surroundings which is used for detecting presence of fire in its premises. For detecting fire, an image processing algorithm was developed and it was tested with a database created by authors. After the presence of fire being confirmed at a direction, the robot aligns itself at that direction and moves toward that place. After reaching there a cross check for the presence of fire is done by a pyro sensor and upon receiving positive result, the fire extinguishing procedure begins and continues till the fire is extinguished. The functionality and accuracy of this robot are tested in different locations and accuracy rate is measured in terms of fire detection and heading angle. This robotic system can be very effective as a safeguard robot in both industries and households by detecting fire and extinguishing it before it reaches a threatening amount.

Key words: Detecting fire, Safeguard robot

UNDERWATER COMMUNICATION USING LI-FI

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ABSTRACT

In Today's World, transmission of information without the aid of a network or organisation is a difficult endeavour in the modern world. The new technique for conveying data and sound using visible light is suggested in this research. A microcontroller gathers the data, processes it, and then transmits it via a light-emitting diode (LED). A photodetector may be able to capture the data and show it on a screen. High precision and accuracy are provided by this technology. This paper explores the use of visible light for data transmission, device control, and sound transmission. While Wireless-Fidelity (Wi-Fi) is commonly used, it emits radiation that can be harmful to human health. This makes Light-Fidelity (Li-Fi) the favoured wireless technology over others like Wi-Fi. Data is transmitted using light using Li-Fi, which has better security than other technologies. In industrial settings, this technology is especially useful for transmitting files and data without the need for any network. It is also cost-effective and user-friendly. The data rate achieved using Li-Fi is faster than 10 Mbps. Overall, this paper presents a high precision and accuracy are provided by this technology. The potential applications for this technology are vast and offer many benefits to various industries.

Keywords: Li-Fi, Wi-Fi

RASPBERRYPI BASEDSMART SECURITY DEVICE FOR WOMEN SAFETY

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ABSTRACT

In this world, the major question in every girl's mind is about her security and safety. In modern life, women are maintaining their job from the kitchen to the office daily but the major concern is their security. According to the recent survey 84 percent of women were facing harassment in various places. At first, the cases handling by the police are a major issue but there have some botherations to identify the victim's exact location. The rapid emergence and evolution of the Internet of Things will help improve the living standards. This system consists of a Raspberry pi, buzzer, and camera; flex sensor, GSM, and GPS modules in a combined way. This paper compares various women safety devices using various sensors and microcontrollers.

Keywords: Flex sensor, Raspberry pi, attacker image

LAND MINE DETECTION AND DIFFUSE USING ROBOTIC ARM

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ABSTRACT

The purpose of this project is to propose a landmine detection and diffuse with robotic arm. Landmines are placed in battle fields. It is an explosive device which concealed under a land the ground vehicle of robotic arm is help to destroy the enemy troops. They are two types of landmines such as Antitank and Anti-personal landmines are metal cased so these landmines can be detected by using metal detector. The ground vehicle is attached to the robotic arm with a gripper to relocate the bomb. The arm is designed in 3D designing software. This device is wireless controlled ground vehicle using RF modules. Robotic arm is similarly work for human arm. This device is relocate the bomb for safe diffusion it can be accessed in remote control with in a range of 2 km. The landmine can be removed using robotic arm and relocate another place without human presence. This device can also be used in gold mines, military purpose automation industry, heavy lift ing equipment and tunnelling. Normally, landmines are different shapes and sizes and are made up of metals, wood and plastic.

Keywords Metal detector, RF modules, Robotics, Ground vehicle, Robotic arm.

INTEGRATED CHURN PREDICTION

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ABSTRACT

In the telecommunication sector, acquiring new customers is no longer a wise move given how much less expensive it is to keep existing ones. Churn control plays a crucial role in the telecommunication sector. This paper attempts to present an integrated customer analytic s framework for churn management because there has been little research combining churn prediction and customer segmentation. The framework consists of six parts: customer segmentation, factor analysis, churn prediction, exploratory data analysis (EDA), and user behaviour analytics. This approach combines customer segmentation and churn prediction to give telecom operators a comprehensive study of customer churn. The tests using six machine learning classifier use three datasets. The churn status of the consumers is first forecasted using a variety of machine learning classifiers. To address the issues with unbalanced datasets, the training set is subjected to the Synthetic Minority Over sampling Method (SMOTE). The 10-fold cross-validation is used to assess the models. F1-score and accuracy are used to evaluate models. Since the basis of churn management is the ability to detect customers who will leave, F1-score is regarded as a crucial indicator to evaluate models for unbalanced datasets. AdaBoost demonstrated the best performance in Dataset 1 according to experimental study, with an accuracy rate of 77.19% and an F1-score of 63.11%. RandomForest performed the best in Dataset2, with accuracy of 93.6% and F1-score of 77.20%. RandomForest performed the best in Dataset3 in terms of accuracy. Multi-layer Perceptron outperformed both, with an F1-score of 42.84% and cy at 63.09%. Churn prediction is implemented, and Bayesian Logistic Regression is employed to conduct the factor analysis and identify certain key features for customer segmentation. Then, K-means clustering is used to segment customers who churn. Consumers are divided into various groups, allowing marketers and decision-makers to more accurately deploy retention strategies.

Keywords : Telecommunication, K-means clustering

LOW COST VENTILATOR USING ARDUINO WITH BLOOD OXYGEN SENSING

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ABSTRACT

The humans lungs are used for breathing. They use drive system in every breathing and exhalation process. The ventilator is used for the configuration is to help individualities during Covid epidemic. It's exceptionally modest and reasonable. At the point when cases witness the ill goods of lung or breathing issue this can be employed in a patient ill condition. Stepper Motor element is employed to push the and sack. While breathing twinkle position linked are low this element can be performed. The LED screen is employed to show the breathing twinkle situations. And this ventilator have the option to screen the case's blood oxygen position and breathed out lung strain to keep down from over/ under air pressure at the same time. This ventilator using Arduino is reliable and cheap to help in the midst of epidemic.

Keywords: Arduino, Ventilator, Stepper Motor, Push and Sack.

DUAL AXIS SOLAR TRACKING SYSTEM WITH WEATHER SENSOR AND SELF – CLEANING

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ABSTRACT

A dual-axis solar tracking system is a device designed to increase the efficiency of solar energy production by accurately orienting solar panels to maximize sunlight absorption. This system is equipped with a weather sensor that can detect changes in weather conditions, allowing it to adjust the orientation of the solar panels accordingly. Additionally, this system is designed with a self-cleaning feature to remove any debris or dirt that may accumulate on the solar panels, ensuring optimal performance and longevity of the solar panels.

Keywords : Dual-axis, Self-cleaning

ANDROID APPLICATION FOR BUS TRACKING SYSTEM USING IOT

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ABSTRACT

In this modern world, smart buildings are become an developing platform using Internet of Things (IoT) , connecting the home appliances with mobile application using IoT are more comfortable. One of the things that can cause a waste of electricity from operating air conditioning system continuously, even though no one present in the room, or the home owner forgets to turn off an air conditioning system while leaving the house. For this reason, we proposed to create a system that can control functioning of an Air conditioning system remotely by applying the concept of an Internet of Things (IoT), where control is carried over using an android application based smart phone device. These controls include Power ON & Power OFF process, operating modes and temperature settings, so that operation of AC is more effective and we can avoid wastage of electricity. In this proposal we uses prototyping method, which includes the different stages of literature studies, field studies, data collection, design stages of both software and hardware requirements. In this proposed system AC turned on automatically when a human entered into a hall and remain functioning until the person leave the hall. Once no one present in a hall ac turn off automatically with the help of IoT based android application.

Keywords: GPS and IOT based mobile applications

ALZHEIMER DISEASE PREDICTION USING MACHINE LEARNING ALGORITHMS

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ABSTRACT

Alzheimer Disease is a progressive neurological disorder that causes brain cells to die and the brain to shrink. It mostly affects the elderly people. Alzheimer disease is a prevalent sort of dementia. This disease is challenging one because there is no treatment for this disease. So, a Machine Learning System can reduce this problem by predicting the disease. In this study, we use machine learning algorithms to predict the Alzheimer disease. The classification of AD is done using machine learning Algorithms like Support vector algorithm, Decision Tree, Random forest algorithm to predict the disease with different accuracies. Also, this paper uses machine learning algorithms to predict the AD using psychological parameters like age, MMSE, Gender, Number of visit and symptoms. MMSE is a Mini mental state Examination. This examination score is main parameter for prediction of this disease.

Keywords : Alzheimer disease, Psychological Parameters, MMSE, Machine learning algorithms, Classifiers.

MULTI-FUNCTIONAL BLIND STICK DESIGN FOR VISUALLY IMPAIRED PEOPLE

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ABSTRACT

To enhance the mobility and independence of visually impaired individuals, It is a technology advanced device that combines the functions of a global positioning system (GPS), and an obstacle detection sensor. The design incorporates a lightweight, aluminum material with a rubberized handle that provides a comfortable and secure grip. The device can be used in different modes that provides a buffer feedback and real-time vibration alerts when an obstacle is detected .The stick also includes a Bluetooth technology to enabling the whereabouts of user with others. The proposed solution employs the Internet of Things (IoT) paradigm to provide a medium between the blind and the environment. Several sensors can be used to detect anomalies like obstacles, staircases and wet terrains respectively. The prototype discussed here is a simple, sophisticated and affordable smart blind stick equipped with various IoT sensors and modules. The multi- functional blind stick design is a life-changing device that improves the overall quality of life for visually impaired individuals by enabling them to navigate the world independently and safe

Keywords- Smart blind stick using IoT, obstacle detection, wet terrain detection, alert messages, finding misplaced stick.

IOT ENHANCED AIR CONDITIONER REMOTE CONTROL SYSTEM USING MOBILE APPLICATION

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ABSTRACT

In this modern world, smart buildings are become an developing platform using Internet of Things (IoT),Now a days connecting the home appliances with mobile application using IoT are more comfortable. One of the things that can cause a waste of electricity from operating air conditioning system continuously, even though no one present in the room, or the home owner forgets to turn off an air conditioning system while leaving the house. For this reason, we proposed to create a system that can control functioning of an Air conditioning system remotely by applying the concept of an Internet of Things (IoT), where control is carried over using an android application based smart phone device. These controls include Power ON & Power OFF process, operating modes and temperature settings, so that operation of AC is more effective and we can avoid wastage of electricity. In this proposal we uses prototyping method, which includes the different stages of literature studies, field studies, data collection, design stages of both software and hardware requirements. In this proposed system AC turned on automatically when a human entered into a hall and remain functioning until the person leave the hall. Once no one present in a hall ac turn off automatically with the help of IoT based android application.

Keywords: Mobile Application, IoT, Control, Air Conditioning.

VOICE CONTROLLED BLUETOOTH CAR USING ARDUINO

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ABSTRACT

Today, science and technology has improved a lot. It has its major impact in communication which has allowed better social interactions. This paper deals with designing a smart way of automation in the vehicle which helps in the movements of the disabled person without the help of others. Through this system, only the voice of the user to control the entire vehicle movement is used. We use mobile phones to recognize the voice of the user and transmit the data to the Arduino board which plays a major part in the vehicle automation through a Bluetooth module. Arduino is an 8 bit micro controller based on AT mega 328. This paper is aimed on designing a flexible and cost-effective wireless automation system using Arduino. The Bluetooth module is used to detect the command given by the user. Then the data is transmitted to the Arduino through the Bluetooth module and after processing the input given by the user the relevant action is done in the vehicle by the use of the driver module which controls the wheels and thus the movement of the vehicle appears.

Keywords: Arduino board, Bluetooth

HEART DISEASE PREDICTION USING MACHINE LEARNING

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ABSTRACT

Heart disease is one of the critical health issues and many people across the world are suffering with this disease. The purpose of this article is to design a model to predict the heart diseases using machine learning techniques. This model is developed using classification algorithms, as they play important role in prediction. The model is developed using different classification algorithms Such as Logistic Regression, Random Forest, Support vector machine, Gaussian Naïve Bayes, K-nearest neighbors. Cleveland data repository is used to train and test the above classifiers. Out of all the classifiers evaluated using performance metrics, K-Nearest Neighbor is giving good accuracy. So, the model built using , K-Nearest Neighbor is efficient and feasible solution in identifying heart diseases and it can be implemented in healthcare which plays key role in the stream of cardiology. In addition to this, feature selection algorithm named chi square is used to select key features from the input data set, which will decrease the execution time and increases the performance of the classifiers.

Keywords: K-Nearest Neighbor, Logistic Regression

MICRO DRONE – CLASSIFICATION BASED ON COHERENT RADAR IMAGING

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ABSTRACT

Low, slow, and small unmanned aerial system (LSS-UAS) are a growing threat to the civil and military sectors. This paper reports the results of a feasibility study on a radar- based drone feature-classification system. A 9.6 GHz CW radar was used to acquire Doppler data. Coherent integration of the data in conjunction with motion extraction. Compensation turned this conventional Doppler radar into a one-dimensional inverse synthetic aperture radar (ISAR), which produced the detailed image of a mini drone. This result paves the way for a fully intelligent classification system with multiple sensors for countering the LSS-UAS threat.

Keywords: LSS-UAS, Doppler radar

INDUSTRIAL SAFETY & ATMOSPHERIC MONITORING SYSTEMBASED ON IOT

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ABSTRACT

Human error is complex topic and is directly linked to the cognitive process and ability to judge responsibility. Occupational Safety and Health Act (OSHA) with its regulations has had a profound impact on the construction industry. The objective of this thesis is to investigate the feasibility in knowledge acquisition about construction accidents and their prevention. The presence of hazardous LPG gas leakage in a domestic, work place, also, stored gases container gas which exhibits ideal characteristic is use. For that sake, an alarm unit is used to vibrate an alarm which is buzzer. Buzzer gives an audible sign of the presence of LPG volume. Chlorine is a chemical used in industry and in household cleaning products. It is a yellow-green gas at normal temperature and pressure. When chlorine is inhaled, swallowed or comes into contact with skin, it reacts with water to produce acids that damage cells in the body. Inhaling high levels of the gas causes fluid to build up in the lungs - a life threatening condition known as pulmonary oedema. To incorporate this aspect in the present study we have chosen porous surfaces and studied the dynamics of the spill of three different flammable liquids on them at angles of inclination varying from zero to 20°. Accidents and investigations monitor the effectiveness of the measures you put in place to control the risks in your workplace. As part of your monitoring, you should investigate incidents to ensure that corrective action is taken, learning is shared and any necessary improvements are put in place.

Investigations will help you to: identify why your existing control measures failed and what improvements or additional measures are needed plan to prevent the incident from happening again point to areas where your risk assessment needs reviewing improve risk control in your workplacein the future Reporting incidents should not stop you from carrying out your own investigation to ensure risks in your workplace are controlled efficiently. An investigation is not an end in itself, but the first step in preventing future adverse events that includes:

ENHANCEMENT OF POLYCRYSTALLINE SILICONE SOLAR CELLS

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ABSTRACT

The current investigation is focused on sol-gel grown Erbium Oxide (Er₂O₃) as an anti-reflection coating (ARC) material to increase performance of photovoltaic solar cells. Three layers (C-I, C-II, C-III) at different thickness of Erbium Oxide (Er₂O₃) were deposited on polycrystalline solar substrate using coaxial electrospinning coating technique. The prepared Sol-Gel solution gets deposited in the surface of the polycrystalline solar wafer. The ARC materials, which got deposited on the surface of the solar cells were analysed with neodymium illumination lamp (closed source). The influence of Erbium Oxide (Er₂O₃) deposited on polycrystalline solar wafers on the optical properties, electrical characteristics, surface morphological study, cross sectional thickness of the coated sample and thermal behaviour of solar cells has been studied. The C-II sample coated with Erbium Oxide (Er₂O₃) demonstrated maximum power conversion efficiency (PCE) of 18.6% at (closed environment). It also exhibits minimal cell temperature of about 48.9 °C. Therefore, the prepared Sol-Gel Erbium Oxide (Er₂O₃) exhibits the desirable properties to be an ARC (Anti Reflective Coating) material for improving the PCE of solar cells.

Keywords: Erbium Oxide (Er₂O₃), Coaxial Electro Spinning, Power conversion efficiency, neodymium illuminated lamp.

IOT BASED FULLY CONTROLLED WEAVING MACHINE

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ABSTRACT

Even in this atomized world, monitoring and production calculation of the weaving machine is done manually; here we come up with the innovation of mounting sensors to monitor the weaving process. This innovation is effectively useful for all the workers and the owner. Due to the noise produced during the weaving process, the worker's hearing efficiency gets affected. Monitoring of a weaving machine by mounting sensors such as position sensor (IR), Temperature sensor, Vibration sensor, and ESP 32 (WI-FI modular). The main objective of this machine is to reduce labor. The machine stops weaving once the required length of the fabric is produced as the sensor is attached (place). It also stops weaving when the machine produces vibration or heat above a certain level. Mounting of ESP 32 sensor enables us to monitor the machine even through mobile phones. Physically challenged people easily operate this machine. If the proposed technology is used throughout the country in the weaving industrial areas, then crises of manual power need will be eradicated to a certain extent.

Keywords: Iot, Weaving Machine

COLLISION AVOIDANCE BY AUTOMATED ADJUSTMENTS IN FILAMENT OF HEADLIGHTS TO PREVENT DAZZLING EFFECT ON DRIVERS

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ABSTRACT

When bright lights from oncoming traffic, streetlights, or other sources reflect off surfaces like windows or mirrors, causing the driver to temporarily lose vision, the dazzle effect, also known as glare, can occur while driving at night. Because of the reduced visibility and decreased reaction time, accidents may occur as a result. A head-on collision with approaching traffic is one of the most frequent accidents caused by the dazzling effect. This occurs when a driver is temporarily blinded by the glare of an oncoming vehicle's headlights and cannot see the road ahead or any other potential dangers. A collision could result from the driver losing control of the vehicle or swerving into the opposite lane. Rear-end collisions are another kind of accident that can happen because of the dazzling effect. A driver may fail to notice a vehicle in front of them slowing down or coming to a stop when they are temporarily blinded by glare, resulting in a rear-end collision. Dazzling effect can also affect cyclists and pedestrians, who might be hard to see in low light. Due to the driver's reduced visibility, this can result in collisions involving cyclists or pedestrians who are struck by a car. Hence, we came up with a solution that should be simple in make and works a lot more on the objective, and our Anti-Dazzling Headlight on the emerging trends that is innovative and cost effective and the way more adaptive to the recent trends and technology such that it paves a way to safety protocol that must be adapted for every vehicle on production. Also, the technology focuses on the low tier vehicles, even the middle-class people buy such vehicles get a closure of the safety facilities similar to the high tier vehicles. That leads to accident-less night time driving exposure to every driver on the road.

Keywords; Anti-Dazzling Headlight, Collision Avoidance

LOAD STABILIZER USING ARDUINO

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ABSTRACT

A technology called Load stabilizer using Arduino reacts dynamically to a load platform over a poor road surface in order to maintain the stability of the goods carrier. Any rollover has a direct cause, which is typically either turning too quickly or enabling one side of the vehicle to suddenly drop or rise, that increases the roll movement about the longitudinal axis of the vehicle. To prevent the system from rolling over, two platforms have been installed, instead of one constant platform fixed to the chassis of a vehicle. The first platform is mounted on the chassis and is a fixed platform, which contains accelerometer sensor, motors and battery management system. The second platform, which is adjustable, is located above the fixed platform and is adjusted using a scissor mechanism in accordance with the lean angle created by the fixed platform. The lean angle of the first platform is measured by the accelerometer sensor and the signals get manipulated by the Arduino controller board, further the signals are transmitted to the motors to adjust the secondary platform with the help of scissor mechanism integrated with the motors.

Keywords; Arduino, Battery Management System

SIGNIFICANCE OF BRACING AND SHEAR WALLS IN AN IRREGULAR SHAPE FLAT SLAB BUILDING FOR A NON-LINEAR DYNAMIC ANALYSIS

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ABSTRACT

Tall building structures have increased significantly in residential and commercial structures and modern Trend structures. The flat slab system is the most commonly used system in reinforced concrete construction in offices, industrial buildings, and so on. It supports the floorslab without the use of beams. Shear walls and bracings are installed to improve the structure's lateral stiffness, ductility, minimum lateral displacements, and safety. The critical issues in seismic building design are story drift and lateral displacements. The main purpose of this study is to compare the seismic response of the structure. Three types of frame models are developed and evaluated by a non-linear dynamic method in ETABs. Seismic parameters like base shear, storey displacement and storey drift, torsion effects and soft storey effects in a building are checked out.

Keywords: Tall Structure, Flat Slab, Shear Wall, Bracing, Non-Linear Dynamic Analysis.

FENITE ELEMENT ANALYSIS OF SHEAR WALL WITH STEEL STRUTSTRUCTURE

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ABSTRACT

Shear walls with strut are strength enhancing feature of structures. In this current study shear wall with different aspect ratio are analyzed by finite element method, reverse cyclic loading will be applied to shear wall. Squat type shear wall is considered with different aspect ratio. The displacement history is applied at the top of the wall. The results of force vs displacement, energy dissipation, stiffness degradation, ductility ratio and failure patterns will be compared with the corresponding squat wall.

Keywords: Shear Walls, Finite Element

EXPERIMENTAL STUDIES ON ENHANCEMENT OF HEAT TRANSFER IN A SOLAR DRYER INCORPORATING PCM CONTAINING NANO PARTICLES

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ABSTRACT

Solar dryer is a device mostly used for drying agricultural products like seeds, fruits, vegetables, food grains etc., The drying rate is faster in the case of solar dryer compared to open drying. Still in many food processing, textile industries conventional dryers are used to remove the moisture present in the product. The conventional dryers use fossil fuels like kerosene and diesel. In this energy crisis days, it is wise to utilize renewable energy source. The main problem with solar energy is that it is not available continuously and it is diffuse in nature, especially it is not available throughout the day. In order to extend the period of operation of the solar dryer, it is mandatory to incorporate thermal energy storage system along with the solar dryer. The best way of thermal energy storage is by utilizing the phase change materials (PCM). The phase change materials also have limitations like low thermal conductivity. To improve the thermal conductivity of PCM Nano particles can be blended with PCM so that its thermal conductivity can be improved. In this work various Nano particles are to be blended with PCM and other heat transfer enhancing techniques are also to be adopted to increase the rate of heat transfer of the solar dryer. Basically there are two ways by which heat transfer enhancing techniques are available like, Active method and Passive method. Among these methods it is proposed to adopt passive method of heat transfer enhancing technique. After conducting various experiments, the expected outcome is to suggest suitable Nanoparticle for a particular type of PCM.

Keywords: PCM, Nano-Particles, Thermal Conductivity, Paraffin Wax

DESIGN AND FABRICATION OF VISION & VIBRATION BASED BLIND SPOT DETECTOR

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ABSTRACT

Blind spot detector is used for detecting the other automobiles, obstacles and bystanders. The device is to provide a solution to improve a driver's safety while changing lanes on the highway. Sensors can detect the presence of objects and passes the information to the driver through visual/audible means. Vibration and visual means are used to inform the drivers about the obstacles in his path. The vehicle blind spot is an area outside the vehicle which cannot be seen by the driver from the driver's seat. Each person will have a different blind spot, and cannot see other cars within that area. For sensing the presence of obstacle, two ultrasonic sensors are used. For processing the information from sensors, Arduino is used. For giving information to the driver, Micro vibration motor and Leds are used. Vision and Vibration based Blind spot detectors are used to advance the information passed to the driver about the obstacles presence. This reduces the number of crash occurrences of the vehicles.

Keywords: Blind spot detector, Vibration

EFFECT AND ANALYSIS OF ELECTROPLATING ON AZ31MG ALLOY

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ABSTRACT

Electroplating on AZ31 magnesium (Mg) alloys has potential for creating high- performance coatings with improved properties. AZ31 Mg alloy is a widely used magnesium alloy known for its lightweight and high strength-to-weight ratio, but it is also prone to corrosion and wear. Electroplating on AZ31 Mg alloy offers a promising approach to enhance its surface properties, such as corrosion resistance, wear resistance, and aesthetics. However, electroplating on AZ31 Mg alloy requires careful consideration of various factors, including surface preparation, plating bath composition, electroplating parameters, pre-treatment and activation, post-plating treatment, and adherence to standards. This abstract provides an overview of the key points to consider when electroplating on AZ31 Mg alloy, including the importance of surface preparation, optimal plating bath composition, control of electroplating parameters, pre-treatment and activation techniques, post-plating treatment, and adherence to industry standards. Proper attention to these factors can result in the successful creation of high-quality coatings on AZ31 Mg alloy with enhanced properties, making it suitable for various applications, including automotive, aerospace, and electronics industries. Further research and development in this area are warranted to explore new plating techniques, optimize coating properties, and broaden the range of applications for electroplated coatings on AZ31 Mg alloy.

Keywords: Electroplating, AZ31Mg alloy, Corrosion resistance, Wear resistance, Aesthetics, Surface preparation

ANALYSIS OF COATING PERFORMANCE IN ELECTROPLATING ON AZ91MG ALLOY

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ABSTRACT

Electroplating with super coatings on AZ91 magnesium (Mg) alloy has gained significant attention due to the potential to improve the surface properties of this widely used Mg alloy. AZ91 Mg alloy is known for its lightweight and good mechanical properties, but it is susceptible to corrosion and wear. Super coatings, such as nanostructured or composite coatings, can offer enhanced properties, including improved corrosion resistance, wear resistance, and mechanical performance. This review provides a comprehensive analysis of the effects and analysis of super coating electroplating on AZ91 Mg alloy. It covers various aspects, including the influence of coating composition, thickness, and microstructure on the properties of the coated AZ91 Mg alloy. The effects of electroplating parameters, such as plating bath composition, current density, temperature, and deposition time, on the coating performance are also discussed. Furthermore, the characterization techniques used to analyze the super coatings, including electrochemical tests, surface morphology analysis, and mechanical testing, are highlighted. The review also includes discussions on the challenges and limitations of electroplating super coatings on AZ91 Mg alloy, such as coating adhesion, coating uniformity, and potential for galvanic corrosion. Overall, the effects and analysis of super coating electroplating on AZ91 Mg alloy offer valuable insights for researchers and engineers interested in developing high-performance coatings for Mg alloys, with the potential to broaden the range of applications in industries such as automotive, aerospace, and electronics.

Keywords: Electroplating, Super coatings, AZ91Mg alloy, Corrosion resistance, Wear resistance, Mechanical properties, Coating composition, Coating thickness, Microstructure

AUTOMATED RESUME SCREENING USING AI

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ABSTRACT

This paper mainly focuses on job posting on LinkedIn or other internet platforms receiving a massive number of applications in the format of pdf, word . Manually filtering out the resumes/cv is not practically possible because it takes a lot of time and many companies don't have hiring teams. This manual process of screening resumes is not fair as many suitable profiles don't get enough consideration which they deserve. So, In this project, we create a web application that uses Natural Language Processing to retrieve information from unstructured resumes and compare it with the predefined skill set and also provides scores based on the comparison. It completes days of work in a few minutes and solves these issues by automatically suggesting the most suitable candidates according to the job description.

Keywords : Natural Language Processing

ANDROID APP DEVELOPMENT FOR HEALTH CARE

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ABSTRACT

This project aims to develop an Android application for healthcare, with the goal of improving healthcare services for patients. The application will allow users to access health-related information, connect with healthcare providers, book appointments, track their health, and receive personalized recommendations. The app will be designed with a user-friendly interface to ensure that users can easily navigate and utilize its features. The app will be developed using the latest Android development tools and technologies, including Java and Android Studio. The project will also focus on ensuring that the application is secure, reliable, and scalable, to ensure a smooth and seamless user experience.

Keywords: Java and Android Studio

BREAKING BARRIERS: THE TRANSFORMER WALK STICK REDEFINING MOBILITY FOR THE BLIND

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ABSTRACT

The Transformer Walk stick is a cutting-edge piece of assistive technology that improves freedom and mobility for people with visual impairments. In order to give users real-time feedback and help, it makes use of speech recognition, recurrent neural networks, transformer algorithms, and text-to- speech technology. Obstacles are detected by cameras and ultrasonic sensors, and the RNN enhances accuracy by learning the user's gait habits. Voice commands are possible thanks to speech recognition, and the surroundings can be heard thanks to text-to- speech. Safety, efficacy, and accessibility are guaranteed by rigorous testing, user-centered design, and ethical concerns. The Transformer Walk stick has the power to transform how blind people move around, fostering equality and accessibility in communities. The device's maximum potential is being pursued through ongoing research and development in partnership with the community of people who are visually impaired.

Keywords : RNN

PARALLEL REALITY

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ABSTRACT

In the realm of physics and science fiction, the idea of parallel reality posits that there may exist multiple realities that differ from one another in some way. These parallel realities are thought to exist in different dimensions or parallel universes, leading to the concept of a multiverse. While this idea remains purely theoretical and has yet to be scientifically proven, it continues to captivate the imagination of scientists and the public alike. Parallel Reality is a new innovative technology created by the collaboration of Misapplied Science and Delta at Detroit Metropolitan Airport. This allows the passengers to see only their boarding information such as Flight, Destination, departing details etc., now started at a limit of 100 customers. The aim of this analysis is to find out how the model works and the scope of this in near future. Parallel reality technology is still in its infancy. It is no exaggeration to say that this technology will rule the world tomorrow. Even when the limitation being 100 people viewing capacity at a single time and 15-meter radius capacity, remains a barrier breaking this restriction would change our Day-to-Day life enormously. Fascinating Applications can be build using this technology like Traffic Signage, Targeted Display advertising, retail, banking, way finding which will happen much soon than you anticipate.

Keywords: Parallel reality

MALIGNANCY DETECTION IN LUNG AND COLON HISTOPATHOLOGY IMAGES USING TRANSFER LEARNING WITH CLASS SELECTIVE IMAGE PROCESSING

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ABSTRACT

Cancer is a condition when a few of the body's cells grow out of control and spread to other bodily regions. Of the millions of cells that make up the human body, cancer can develop practically anywhere. A number of imaging techniques, including mammography, computerized tomography (CT), magnetic resonance imaging (MRI), ultrasound, and biopsies, among others, can be used to identify cancer. A histopathology examination (biopsy) is frequently carried out to assess the image and aid in the cancer diagnosis. The purpose of this study is to create enhanced CAD phases tactics that will be vital in reducing the variability gap between and among observers. In order to successfully detect the Fourier, transform based Segmentation in the CAD system and enhance its performance, it developed an autonomous segmentation approach that is then followed by self-driven post-processing activities. The proposed segmentation technique has a number of benefits over the state-of-the-art methods, including the incorporation of spatial information, the absence of predetermined initial parameters, independence from magnification, automatic determination of the inputs for morphological operations to enhance segmented images, and speed. Several tests were run to find the best feature extraction methods and to look into the effects that textural, morphological, and graph properties have on categorization classification accuracy. In addition, a weighted feature selection-based classification method for cancer detection has been created. As a result, it might help pathologists get a second opinion and facilitate the early identification of disorders.

Keywords: segmentation technique & CAD phases

TAMIL NUMERALS IDENTIFICATION IN PALM LEAF MANUSCRIPTS USING DEEP LEARNING

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ABSTRACT

Palm leaves were one of the first writing materials, and humans have used them as writing surfaces. In order to share this information with the rest of the world and to stimulate further research into ancient literature, accessible access to historical manuscripts must be provided. In this study, a convolutional neural network (CNN)-based optical character recognition (OCR) system is utilized to accurately digitize and recognize Tamil palm leaf manuscript numbers. In ancient palm leaves, numbers and digits are written in Tamil numerals, which makes reading palm leaves challenging. Our approach thereby transforms Tamil numbers to standard numerals (Arabic letters). We are creating a technique based on deep learning to recognize the numbers. Our study utilizes the convolution layer, pooling layer, activation layer, fully connected layer, and classifier of the convolutional neural network. The database of character sets was developed using scanned images of palm-leaf manuscripts. The database is divided into 12 unique classes, with around 700 records per class. Using the CNN model, a functional demonstration of the character recognition method for Tamil palm-leaf writing was created. It was determined that the CNN model had a higher rate of recognition. A high number of characteristics were gathered for each CNN layer, which significantly improved the prediction rate and accuracy.

Keywords Palm-leaf manuscripts, inscriptions, archaeology, image processing, optical character recognition, CNN.

A LOCAL DIALECT TRANSLATION SOFTWARE USING DEEP LEARNING

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ABSTRACT

This software's purpose is to identify and convert regional dialects into standard speech. The goal is to facilitate cross-cultural communication and remove language obstacles. The software accurately detects the dialect and converts it into a standard voice using the most recent advancements in speech recognition and natural language processing technologies. The user's native dialect can be used to input speech, and the software will immediately output translated speech. The app's powerful speech recognition and translation capabilities are powered by frameworks like Tensor Flow, Py Torch, and Speech Recognition and were built using Python. Users of all ages may easily utilize the app because of its user-friendly UI. The app is a dynamic solution that can keep up with the changing needs of its users because it also has the potential to learn and adapt to new dialects. The purpose of this app is to assist individuals from different locations get together, understand one another, and overcome language barriers.

Keywords: Tensor Flow, Py Torch, and Speech Recognition

IOT BASED SOLUTION FOR MONITORING OF POLLUTION THROUGH PESTICIDE IN FRESH FRUITS AND VEGETABLES AVAILABLE IN MARKETS

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ABSTRACT

This paper proposes an IoT-based solution for monitoring pesticide levels in fresh fruits and Vegetables available in markets. The solution utilizes sensors to collect data on pesticide levels, Which is then transmitted to a central server for analysis and visualization. The system also includes A mobile application that allows consumers to view the pesticide levels of specific products before Purchasing them. This solution aims to improve food safety and consumer awareness by providing Real-time information on pesticide levels in fresh product. Allow access to the data by consumers, retailers, and regulators through a web or mobile application. The data could be used to make informed decisions about the safety of the product. Furthermore, it also provides farmers And vendors with a reliable way to monitor and control pesticide use in their products, which can Help reduce the overall amount of pesticides used in the foodproduction process. Continuously monitoring the fruits and vegetables for pesticide residue to ensure the safety of produce in the market.

Keyword: Pesticide analysis and visualization.

WIRELESS SMART HOME AUTOMATION USING IOT

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ABSTRACT

Wireless smart home automation using the Internet of Things (IoT) is a quickly developing field that empowers mortgage holders to screen and control different domestic devices and frameworks utilizing a cell phone or other associated gadgets. This paper presents an outline of the present status of the craftsmanship in remote shrewd home mechanization utilizing IoT advances. The paper examines the different parts of a normal shrewd home framework, including sensors, actuators, correspondence conventions, and UIs. The paper additionally investigates the advantages of shrewd home mechanization, like better energy effectiveness, improved security, and more prominent comfort. At long last, the paper closes by featuring a portion of the key difficulties confronting the far-reaching reception of remote savvy home computerization involving IoT advances and giving ideas for future examination around here.

Keyword: Shrewd Home Framework & UIs

SOFTWARE (MOBILE) APPLICATIONS-TOOLS AND METHODOLOGY

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ABSTRACT

The Software engineering tools and methods information area incorporates both the product improvement conditions and the advancement strategies knowledge areas distinguished in the misrepresentation form of the aide. Programming advancement conditions are the PC based apparatuses that are expected to help the product improvement process. Instruments permit dull, distinct activities to be robotized, accordingly diminishing the mental burden on the computer programmer. The engineer is then free to concentrate on the creative aspects of the process. Tools are often designed to support methods, reducing any administrative load associated with applying the method manually. Like methods, they are intended to make development more systematic, and they vary in scope from supporting individual tasks to encompassing the complete life cycle.

Development methods impose structure on the software development activity with the goal of making the activity systematic and ultimately more likely to be successful. Methods usually provide a notation and vocabulary, procedures for performing identifiable tasks and guidelines for checking both the process and the product. Development methods vary widely in scope, from a single life cycle phase to the complete life cycle. The emphasis in this Knowledge Area is on methods that encompass multiple lifecycle phases since phase-specific methods are likely to be covered in other Knowledge Areas.

Keywords: Misrepresentation & Tasks to Encompassing

CONTEXTUAL AI BASED MESSAGING FOR INCOMING MESSAGES WHILE DRIVING

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ABSTRACT

Contextual AI-based messages while driving are designed to improve road safety by reducing distractions and keeping drivers focused on the task at hand. This technology can be integrated into various types of communication platforms such as: B. Messaging apps and in-vehicle infotainment systems. It gives drivers a way to stay connected and receive messages to help them determine their urgency and importance and prioritize using secure and convenient technology. This new app will use AI algorithms to determine if the user is driving based on GPS data, vehicle speed, and other contextual factors. Please pay attention to them and respond in a safe manner. AI systems can analyze various factors such as sender, content, and driving conditions to determine the best course of action. B. Defer non-essential messages, alert drivers to urgent messages, and automatically respond to certain types of messages. Using contextual AI in this way keeps drivers focused on the road while staying connected to the people and information that matters. Technologies used: Automatic speech recognition (ASR) Natural Language Processing (NLP) Advanced Dialog management Machine Learning (ML)

Keywords: B .messaging apps , In-vehicle infotainment systems , Natural language processing.

EFFECTIVE WASTE CLOUD COMPUTING CAN CONTRIBUTE TO EDUCATION SUCCESS

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ABSTRACT

“Cloud” is a collective term for a large number of developments and possibilities. It is not an invention, but more of a “practical innovation”, combining several earlier inventions into something new and compelling. Much like the iPod is comprised of several existing concepts and technologies (the Walkman, MP3 compression and a portable hard disk), cloud computing merges several already available technologies: high bandwidth networks, virtualization, Web 2.0 interactivity, time sharing, and browser interfaces. Cloud Computing is a popular phrase that is shorthand for applications that were developed to be rich Internet applications that run on the Internet (or “Cloud”). Cloud computing enables tasks to be assigned to a combination of software and services over a network. This network of servers is the cloud. Cloud computing can help businesses transform their existing server infrastructures into dynamic environments, expanding and reducing server capacity depending on their requirements. A cloud computing platform dynamically provisions, configures, reconfigures, and deprovisions servers as needed. Servers in the cloud can be physical machines or virtual machines. Advanced clouds typically include other computing resources such as storage area networks (SANs), network equipment, firewall and other security devices.

Keywords: practical innovation, combination of software, dynamically provisions

AGRO FOODZ

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ABSTRACT

This app provides a weekly diet plan and food delivery services Aimed at making healthy eating easier and more convenient for the Users. The app offers personalized meal plans based on the user's Diet preferences and goals to achieve in the weekly basis. The one who wants to be in diet can enroll their names in the app. The trainers and nutritionist are also enrolled in this app to train your food chart. In this app we created the interface to connect the healthy diet planning people to the nutritionist. The cloud kitchen who were providing the diet planned healthy food are enrolled in our app By the prescription of the nutritionist. The food can be ordered by the Users in a weekly basis. From this the peoples in rural places also can maintain their diet plan perfectly in the healthy manner. We should identify the consumers of this app and get some feedback from them to improve the user experience. The nutrition value are denoted in the app for the user to get the knowledge about the food consuming for their diet. The cloud kitchen whom run their healthy food kitchen can be a part of this app to provide the food To the user in the correct proportion. This involves creating the database architecture , defining the data model and integrating the database with the app. This involves making the app available in the playstore and other websites.

Keywords: Diet preferences & Nutrition value App

ENHANCING WOMEN'S SAFETY WITH AI

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ABSTRACT

We came up with the most sophisticated and intellectual solution A automated vigilance software integrated with deep learning and computer vision which could detect abnormal activities and if threats identified it could alarm the officials with alert message with specified footage Surveillance detection: Automated vigilance software integrated with help of deep learning and computer vision which would identify sexual harassment and indecent exposure in public places and even more which is possible with deep learning(object recognition, action recognition, crowd analysis and finally violence detection in a crowd environment) which could help in crimes that is about to happen or happening and triggering a response to nearby police stations with that footage and geographical location so by preserving peace in a most sophisticated and intellectual way Classifying the video that are currently recording the huge amount of data that can be documented over time, a vital scenario is facility for data warehousing and data analysis. Deep learning techniques are involved with two main components; training and learning. Both can be achieved with highest accuracy through huge amount of data .Well still there are still lot of processing going on behind we just explained it in a brief manner so that our working principle of the model is easily understood by people of all domains With our model we could effectively reduce crimes that are mentioned in the statement in sophisticated and intellectual way.

Keywords: specified footage Surveillance, data analysis.

FINGERPRINT ANTI SPOOFING USING AI ALGORITHM

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ABSTRACT

Nowadays, fingerprint spoofing is a major problem in finger print scanner and finger print security. This problem arises due to technological advancements in bypassing and hacking methodologies. Today's fingerprint sensors make a variety of hardware as well as software based anti- spoofing and spoof detection approaches. However, while fingerprint sensors evolved, so did sensor spoofing attacks. When one technique proves ineffective, fraudsters take no time in upping their game. Fingerprint spoofing attacks can come in many forms. It is not just manually created spoofs using flexible material and fingerprints engraved on them. Even sophisticated technologies like machinelearning and artificial intelligence can be leveraged to circumvent fingerprint security. Artificial fingerprints constructed by gelatin, Play-Doh and Silicone molds may be misused for access and identityfraud by forgers to clone fingerprints. This process is called spoofing. To detect such forgeries, conventional Machine Learning (ML) techniques were utilized previously. These ML methods are predominantly based on feature engineering techniques. Gabor, orientation of optical input, singular points and ridge pattern are some of the widely used feature descriptors and the features extracted from these are classified using any ML classifier. However, these ML techniques fail to deliver high accuracy since the features are hand crafted and also, they are not robust enough to diverse test samples and widely lack generalization. Additionally, the performance of the model is highly subject to quality of sensor, noise and other environmental conditions (like sweat, presence of water ,grease ,oil ,etc.)present during image acquisition. Therefore, to solve these above-mentioned problems, in this work, we have proposed a novel deep Convolutional Neural Network (CNN) as classify original and malicious fingerprints. Unlike machine learning models, deep learning models do not require much human intervention. It creates a layered network, similar to the biological neural networks of the human brain, called artificial neural networks. Deep learning models are used to process complex tasks where there is a large amount of data. So we prefer deep learning .We are using a CNN for the classification of the input images. CNNs are neural networks that comprise multiple layers and are generally used to classify optical data. CNNs take the optical input and process them in the form of tensors. Tensors are the representation of the data input in the form of a multidimensional matrix. The optical image is generally processed by applications as a two-dimensional input. Here, the model will convert the 2D input to a 4D matrix

Keywords: Biometrics, deep learning, convolutional neural network, inception model, minutiae, fingerprint

VIRTUAL MINDCARE: IMPROVING MENTAL HEALTH WITH VR TECHNOLOGY

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ABSTRACT

Mental health is a critical aspect of overall health and well-being, yet many people around the world struggle to access effective and affordable treatment. Traditional mental health services can be costly, time-consuming, and difficult to access, especially for people living in rural or remote areas. To address this challenge, Virtual Mind Care has been developed as a virtual reality (VR) telemedicine platform that provides a convenient, engaging, and effective solution for mental health treatment. Virtual Mind Care connects patients with licensed therapists and mental health professionals in real-time, using VR technology to simulate real-life scenarios and environments. This allows patients to face and overcome their fears and challenges in a safe and controlled environment, improving access to care and reducing stigma associated with mental health treatment. The platform is designed to be accessible from the comfort of patients' own homes, eliminating the need for costly and time-consuming visits to physical clinics. The use of VR technology in mental health treatment has been shown to have significant benefits, including improved engagement and motivation, increased feelings of safety and control, and enhanced therapeutic outcomes. Virtual Mind Care leverages these benefits to provide a comprehensive mental health treatment solution that is both effective and convenient. The platform is user-friendly and intuitive, making it accessible to patients of all ages and backgrounds. Patients can access Virtual Mind Care through a VR headset and controllers, which are designed to be easy to use and set up. The platform also includes a range of features and tools, including appointment scheduling, data analytics, and educational resources, making it a complete solution for mental health treatment.

Keywords: VR technology, mental health treatment.

WOMEN SAFETY WRIST BAND

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ABSTRACT

The world is now very fast moving and the people have also to cope up the fast environment and do their work within time line otherwise the world will ignore them. Women are the primary backbone of our economy, primarily shaping the future of the country. With the advancement of society and technology, women have been victims for various crimes and injustice. Women in India have made considerable progress in almost seven decades of Independence, but they still have to struggle against many handicaps and social evils in the male dominated society. Swami Vivekananda quoted that, "There is no chance for the welfare of the world unless the condition of women is improved, it is not possible for a bird to fly on only one wing. Women's safety at the work place has become a matter of serious concern in the country. A total of 4,05,861 cases of crime against women were registered during 2019, showing an increase of 7.3% over 2018 (3,78,236 cases). The aim of this project is to develop a self defence system especially for women to protect themselves from present day physical harassments. It has become the outmost priority of the society to provide the required safety for women.

To solve this problem, we have designed a wearable safety device called a wristband. It has many features to ensure safety. The wristband has connected with a mobile application. The wristband works with the mobile application to send distress alerts to the police, predefined numbers like a text message. An alert will be sent to the police with the exact location of the device. GSM module acts as an intermediate between the vehicle and the owner, providing a two-way communication, and connects the hardware and software modules and responsible for sending and receiving Message Service to and from the user. Used for activation or deactivation of the security system. If someone tries to damage the wristband, an alert message will be sent to the police automatically. This system is designed using IOT devices which consists of sensors. It records audio and captures video of the user's surroundings as camera is built inside the watch in which image of the attacker can be captured easily and act as solid evidence against the crimes. It will be shared with the police if she gives access. The wristband also helps her to find the nearby police station. It gives an alert to the nearby surrounding people by banging siren sound. Cases with no signal cases (to send notification, share location) this alert sound is efficiently helpful. The display on LCD display. Smartwristband for women safety using Raspberry pi 3 processor. Pepper spray if used makes it a short-term preventive solution against the attack but this wrist band is the technological implementation with new featured development. The device could be used for children as a tracking device thus, parents can monitor their children's location remotely. This smart application is designed which consists of all the latest technologies to provide safety measures to the women.

Keywords: Women's safety, an alert message, featured development.

AI TO DETECT DISTRACTED DRIVING

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ABSTRACT

Distracted driving has become a major issue in recent years and it has led to a significant number of accidents and fatalities on the roads. Any action that diverts attention from driving, such as texting, eating, drinking, or even conversing with passengers, is referred to as distracted driving. Everybody on the road is in danger as a result of this behavior, which raises the possibility of accidents. Researchers have been working on AI-based solutions to detect and stop distracted driving in order to solve this problem. In order to gather information about the driver and the road ahead, the system often makes use of cameras and sensors that are already installed in the car. Computer vision algorithms are then used to analyze the recorded data in order to pinpoint particular actions, such as glancing away from the road, using a phone, and yawning. The device reminds the driver of their obligation to pay attention to the road in order to warn them of any potential distractions. An alert can be displayed visually on the dashboard, audibly, or even physically through the steering wheel shaking. The degree of the warning can also be changed based on how intense the distraction is. A louder alarm may be required for a minor distraction, although a visual indication alone may be sufficient for a minor distraction. AI-based solutions for spotting distracted driving have the potential to greatly improve road safety because fewer accidents caused by it will occur.

Keywords: AI-based solutions, machine learning algorithms.

BRAIN TUMOR DETECTION

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ABSTRACT

Brain tumors can cause serious neurological issues, brain tumors are a serious health concern, and effective treatment depends on early detection. The development of computer-aided diagnostic (CAD) systems for identifying brain tumors has significantly increased because to developments in medical imaging and machine learning. To locate potential cancers and aid radiologists in reaching a diagnosis, these systems examine medical pictures such as magnetic resonance imaging (MRI) scans. In the field of medicine, artificial intelligence (AI) has made tremendous strides that have improved patient outcomes and increased the effectiveness of healthcare delivery. The following are some instances of how AI is being applied in medicine:

- **Diagnosis and treatment planning:** AI algorithms can help physicians' analyses x-rays and diagnose patients with greater accuracy. AI systems, for instance, may be taught to spot patterns in X-rays, CT scans, and MRI pictures, which can help clinicians make better treatment choices.
- **Predictive analytics:** AI systems can be used to examine vast amounts of medical data to find trends and forecast future health outcomes. The risk of illness development, treatment interactions, and more can all be foreseen using this.
- **Brain tumours can be identified more quickly and accurately by automating the processing of medical images using AI and machine learning algorithms.** Brain tumours can be predicted using the efficient machine learning technique known as deep learning. Recent significant advances in deep learning for medical image processing have led to the development of numerous deep learning-based systems for brain tumour prediction. These algorithms commonly employ convolutional neural networks (CNNs) to analyse medical imaging data, including that from computed tomography (CT) scans and magnetic resonance imaging (MRI) scans. The deep learning algorithms are trained using large datasets of brain scans so they can identify patterns and qualities that are specific to brain tumours. The results of these deep learning algorithms have been promising, with many studies indicating good accuracy rates. The methods for locating brain tumors, such as biopsy operations and MRI and CT scans, which are both types of medical imaging. In this project I have used dataset from Kaggle dataset. I had used MRI scan images dataset. Brain tumor detection is a crucial aspect of medical diagnosis and treatment planning. The accuracy and reliability of brain tumor detection can have a significant impact on the prognosis and outcome of patient.

Keywords: medical imaging, biopsy operations, scan images dataset.

ARTIFICIAL INTELLIGENCE IN CHATBOTS

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ABSTRACT

Chat bots are computer programs which are designed to simulate human conversation through Natural Language Processing. Artificial Intelligence plays a key role in the development and functioning of chatbots. It assists in handling a variety of tasks, from answering simple customer queries to conducting complex transactions. Machine Learning algorithms allow chatbots to analyze vast amounts of data, learn from it, and improve their performance over time. NLP algorithms enable chatbots to understand and respond to human language both accurately and naturally. One of the main advantages of chatbots powered by artificial intelligence is their ability to personalize conversations and deliver responses to the individual needs and preferences of each user. This is achieved through the use of predictive analytics, which enable chatbots to analyze user behavior and provide customized recommendations and solutions. These AI based chatbots have enormous applications in various fields and they are likely to continue to grow as businesses seek to improve customer engagement, reduce costs, and increase efficiency. However, there are also potential drawbacks in using AI in chat bots. One of the main concerns is the risk of bias in the algorithms, which can lead to discriminatory or unethical behavior. In addition, the use of AI in chatbots raises important ethical questions around issues such as privacy, consent, and transparency.

Keywords: complex transactions, predictive analytics, AI in chat bots.

PARKING SLOT AUTOMATION

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ABSTRACT

This paper reports on Automated Parking slots. Automated Parking slots helps in the regulation of any parking slot with the large number of vehicles involved. This project concentrates on less manpower utilization , less installation and maintenance cost. This project is a versatile project which can be implemented on any condition and location. This is a conceptual project and just a prototype was designed and hence can go through the various stages of modification to make it reliable and much more suitable for the real time applications. I. Introduction As the automobile industry is growing day by day hence the large number of vehicles are produced and used by the common people. So as the number of vehicles increases it becomes much more complicated to regulate these vehicles. When they are to be parked hence we have designed this project to make the parking system much simpler and automated in order to provide an automated parking slot. This project can be implemented in various kinds of situations and places. Such as schools ,shopping malls etc. With less requirement of maintenance for better functionality of the parking slot. This slot has various parts such as entry gate, exit gate, vehicle counter and a display system and a safe parking mechanism.

Keywords: Automatic, Embedded System, Sensors, Wireless (Xbee)

DATA LEAKAGE DETECTION

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ABSTRACT

Current approaches to enforce fine-grained access control on confidential data hosted in the cloud are based on fine-grained encryption of the data. Under such approaches, data owners are in charge of encrypting the data before uploading them on the cloud and re-encrypting the data whenever user credentials or authorization policies change. Data owners thus incur high communication and computation costs. A better approach should delegate the enforcement of fine-grained access control to the cloud, so to minimize the overhead at the data owners, while assuring data confidentiality from the cloud. We propose an approach, based on two layers of encryption that addresses such requirement. Under our approach, the data owner performs a coarse-grained encryption, whereas the cloud performs a fine-grained encryption on top of the owner encrypted data. A challenging issue is how to decompose access control policies (ACPs) such that the two layer encryption can be performed. Our system assures the confidentiality of the data and preserves the privacy of users from the cloud while delegating most of the access control enforcement to the cloud.

Keywords: Authorization policies change, owner performs.

BLOCK CHAIN BASED DATA INTEGRITY VERIFICATION FOR CLOUD STORAGE AGAINST PROCRASTINATING AUDITORS

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ABSTRACT

Cloud storage has become increasingly prevalent in recent years, raising concerns about the integrity of data stored in the cloud. Despite the fact that various methods have been suggested for ensuring the integrity of cloud data, they all have certain limitations. This study aims to address these limitations by proposing an effective cloud data integrity verification scheme based on blockchain technology and by improving upon the deficiencies of previous approaches. To enhance the security of our proposed scheme, we utilize a lattice signature algorithm that can resist quantum computing attacks. We also simplify the computational overhead of the user verification phase by incorporating a cuckoo filter. Furthermore, we introduce a decentralized blockchain network to replace traditional centralized audits, which enhances transparency and security by publicly authenticating verification results. Our proposed scheme has undergone rigorous security analysis and has demonstrated its ability to resist malicious attacks. Additionally, our experimental results show that our scheme is highly efficient, especially in the user verification phase.

Keywords: cloud data integrity, lattice signature algorithm, resist malicious attacks.

CROP SUGGESTION USING GLCM ANALYSIS

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ABSTRACT

Deep learning methods are greatly admired in the research field of agriculture. The agricultural factors weather, rain, soil, pesticides, and fertilizers are the main responsible aspect to raise the production of yields. The fundamental basic key aspect of agriculture is Soil for crop growing Examination of soil is a noteworthy part of soil asset management in horticulture. The soil investigation is exceptionally useful for cultivators to discover which sort of harvests to be developed in a specific soil condition. The main target of this work is to investigate soil supplements utilizing deep-learning classification techniques.

Keywords: production of yields, management in horticulture.

QUANTUM INFORMATION PROCESSING

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ABSTRACT

Quantum information processing (QIP) is a rapidly growing field that explores the potential of quantum mechanics for information processing and transmission. At its core, QIP relies on properties of quantum systems such as superposition and entanglement to perform calculations and encode information. This has the potential to revolutionize computing by enabling faster and more efficient calculations than conventional computers. The basic unit of information in QIP is the qubit, which can represent both 0 and 1 at the same time. This property of superposition allows multiple results to be computed simultaneously, leading to faster and more efficient computation. Additionally, qubits can become entangled, which means that their states are correlated even when they are separated by large distances. This property has potential applications in secure communications, as changes to one qubit can be detected by changes to another, ensuring information integrity. Qubits' special characteristics are utilized by quantum algorithms, which are created to function on quantum computers. Shor's technique, for instance, has ramifications for encryption since it can factor big numbers exponentially quicker than traditional algorithms. The search for a solution to an optimization problem can be sped up using additional quantum methods, like Grover's algorithm. Despite the promise of QIP, there are challenges that need to be addressed before practical quantum computers can be developed. One problem is that of decoherence, which occurs when fragile qubits interact with their environment and lose their quantum properties. Researchers are exploring ways to protect qubits from decoherence, such as using error-correcting codes and improving the materials used to make qubits. Another challenge is scalability. While researchers have demonstrated small quantum computers, scaling to larger systems is challenging due to the need for increased coherence and the difficulty of controlling large numbers of qubits. In conclusion, quantum information processing has the potential to revolutionize computing by enabling faster and more efficient computations. Although there are challenges to overcome, researchers are making progress toward developing practical quantum computing technologies. The implications of this research extend beyond computing, with potential applications in areas such as cryptography, optimization, and machine learning.

Keywords: efficient computation, Grover's algorithm, computing technologies.

EYE DISEASE DIAGNOSIS AND PREDICTION USING RESNET-50

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ABSTRACT

Fundus analysis studies the relationship between human health and changes in the anatomy of the iris. Apart from the fact that Fundus recognition focuses on modeling the overall structure of the iris, Fundus diagnosis emphasizes the detecting and analyzing of local variations in the characteristics of I rises. This system presents a computerized iridology system for detecting abnormality conditions in the body. Which is designed with help of image processing through several stages such as pre-processing, feature extraction, classification using threshold Algorithm and block chain. This system produces accuracy rate of 99.4% which is relatively higher than the existing noninvasive models.

Keywords: computerized iridology system, using threshold Algorithm.

ANDROID BASED PORTABLE SMART CANE FOR VISUALLY IMPAIRED PEOPLE

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ABSTRACT

In today's encouraging world of technology, mobile applications are a speedily increasing segment of the worldwide mobile market. An android operating system is the highest accepted and extremely developing open platform for mobile application development. Due to the rise of the impaired people population and there are limited technological- based facilities, we want to leverage technology to develop an Information & Communication Technologies (ICT) based smart portable cane for visually impaired people using android application. We have created an information-based probabilistic relative model amongst the key indicators and sequenced their data gathering priority and precedence. The device is developed and tested with blind people that gives better results for reliability, user friendly, portability, less weight, and economical so that everyone can easily purchase, mount, and configure to walk more confidently and perform a necessary operation such as obstacle detection in the range of 5 feet with varying buzzer frequency after every 12 inches to give better understanding of distance to obstacle also the facility to operate mobile from the mounted device such as sending a message to caretakers, dialing a call, help message, SMS read and open Google maps to navigate by a single click on the mounted buttons on a white cane that wirelessly communicates through Bluetooth transceiver.

Keywords: Android operating system, Obstacle detection,

INTEGRATED WASTE MANAGEMENT BY USING ATMS FOR DISPOSAL AND RECYCLING SPECIFICALLY FOR E-WASTE

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ABSTRACT

The majority of development effort approaches the problem of managing e-waste. Due to this, technology is moving towards smart waste management. Any method that uses technology to improve the efficiency of trash collection and disposal is referred to as smart waste management. This paper concentrates on e-waste management. E-waste production is rising quickly, which is made worse by improper disposal and illegal exports of e-waste from wealthy to developing nations. Environmental contamination and direct and indirect recycling exposures can potentially impair a person's health. And there are proven solutions for reducing e-waste. Existing solutions were connecting informal sector operations to those of the formal sector, encouraging the use of appropriate Electronic Support Measures (ESM) for recycling, and Demanding domestic processing. Our solution is to create an idea which treats e-waste in an efficient way. This paper describes that firstly when e-waste such as defective electronic gadgets is inserted into the open box of the machine like an ATM which contains some electrochemical sensors that sense chemicals such as lead, silicon etc., present in the device. Further sensed information is sent to the host processor. Then cash for the evaluated amount of chemicals present in the device is calculated and accordingly, the customer is paid. The innovation in our paper is that trash is collected, and accordingly the customer gets paid for it. By doing this, we have dual benefits: firstly the e-waste could be feasibly recycled and secondly, the customer is profited by donating their waste. And by doing so, we can prevent the issues such as landfilling, pollution etc.

Keywords: Smart Waste Management, defective electronic gadgets.

PLANTECT - A DEEP LEARNING BASED PLANT DISEASE DETECTION SYSTEM

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ABSTRACT

We propose here an image-based automatic detection technique for plant diseases. By identifying color features on leaf surfaces using deep learning algorithms, we can detect plant infections and diseases. Agricultural productivity is essential to a country's economy. Identifying plant diseases is very important to prevent productivity loss and improve the quality of produce. Although traditional method is reliable, visual observation of plant leaf patterns and diagnosis of disease require the use of human resources. Traditional methods are time consuming and more tiring for workers. Early detection of crop diseases using automated techniques can reduce productivity losses in large farmlands. Plant disease management aims to reduce the economic and aesthetic damage caused by plant diseases. This method is traditionally called as plant diseases control, but the current social and environmental values see control as a way to prevention of disease often drastic measures such as pesticide spraying, soil fumigation and incineration are no longer prevalent. Moreover, disease management practices are often driven by disease prediction and disease modeling rather than schedules and prescriptions.

Keywords: Traditional methods, plant diseases control, disease management.

DIGITAL CHEQUE CLEARANCE AND VERIFICATION

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ABSTRACT

This research work proposes a scalable and novel electronic cheque clearance framework. It is based on the block chain where all banks willing to participate in this system must join the proposed block chain based framework in order to provide the faster cheque clearance facility to its customers. The proposed e-cheque system is free from the various security attacks such as alteration of the e-cheque, double spending of e-cheque, counterfeits e-cheques. The e-cheque generated in the proposed system can be deposited electronically or physically via teller machines. The proposed system is highly scalable because on an average only 32.2% of nodes participate in the proposed trust based consensus mechanism and further message exchange perconsensus process is much lesser as compared to Po W approach.

Keywords: block chain based framework, highly scalable, consensus mechanism.

MALIGNANT DETECTION IN BRAIN USING ENSEMBLE LEARNING ALGORITHM

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ABSTRACT

In the quick elaboration of medical technology, the period of big data in medicine is snappily approaching. The analysis and mining of these data, significantly impact the prophecy, monitoring, opinion, and treatment of tumour conditions. Since it has a wide range of traits, a low survival rate, and an aggressive nature, brain tumour is regarded as the deadliest and most ruinous complaint. Misdiagnosed brain tumours lead to shy medical treatment, reducing the case's life chances. Effective remedy and long- term survival is made possible for the case by a correct opinion. Despite extensive disquisition, there are still certain limitations in detecting brain tumour because of the unusual distribution pattern of the lesions. Chancing a region with a small number of lesions can be delicate because small areas tend to look healthy. It directly reduces the type delicacy, and lodging and choosing educational features is a big challenge. A significant part is played by automatically classifying early- stage brain tumour exercising deep and machine knowledge approaches. In this paper, crossbred deep knowledge model Convolutional Neural Network-Long Short- Term Memory (CNN- LSTM) is applied to measure the performance of this model. The performance result measured in accuracy, precision, recall and F1-measure exposed in this paper.

Keywords: Brain tumour, Convolutional Neural Network, Long Short- Term Memory, CNN- LSTM, MR images, deep knowledge, Ensemble knowledge.

ECO VAYAL

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ABSTRACT

Block chain technology has the potential to revolutionize the agricultural sector by providing a transparent, secure, and efficient system for tracking food products from farm to table. Block chain-based agricultural projects have emerged as a way to tackle the challenges of food safety, supply chain inefficiencies, and lack of transparency. These projects use distributed ledger technology to record and verify data related to the production, processing, and distribution of agricultural products. By leveraging smart contracts, block chain-based projects can automate the execution of contracts, reduce transaction costs, and improve trust between stakeholders. The use of block chain technology in agriculture can also help to promote sustainable farming practices, increase farmer income, and enhance food security. However, there are still some challenges that need to be addressed, including the high cost of implementation, the need for technical expertise, and the lack of standardization across different block chain platforms. Despite these challenges, the potential benefits of block chain-based agricultural projects make them a promising avenue for innovation in the agricultural sector.

Keyword: Block chain technology, security, transparency

AUTOMATIC QUESTION GENERATION SYSTEM BASED NATURAL LANGUAGE PROCESSING USING PYTHON

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ABSTRACT

Automatic question-answer pair generation is becoming more and more important, reducing the workload and time of manual question generation. We developed the automatic question-answer pair's generation system for patient education, which can be converted into question-answer pairs in matching video content according to different patient education videos. These question-answer pairs can fully help patients understand pre-and post-operative patient education, by collecting a large number of existing patient education videos in the hospital. The retrieval-based question answering system can query the questions and answers database established by the question-answer pair generation system. The system we propose is mainly divided into three parts. The first part is the text generation (TG) module, which processes the video into text and provides the data required by the subsequent modules. The second part is the answer extraction (AE) module, which aims to extract entities and nouns in the text as candidate answers. The third part is a PART-based question generation (QG) module, which generates corresponding questions by inputting sentences including answers.

Keywords: Deep Learning, Machine Learning, Text Generation, Answer Extraction

ADWARE DETECTION OF IOT DEVICES

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ABSTRACT

Federated learning is a machine learning approach that enables multiple devices to collaboratively train a shared model without the need to share their data with a central server. In the context of IoT devices, federated learning can be a useful approach for malware detection, as it can help preserve the privacy of the device owners and reduce the risk of data breaches. However, implementing federated learning for malware detection in IoT devices requires addressing several challenges, such as ensuring the consistency and accuracy of local models and managing communication and coordination between devices. With careful design and implementation, federated learning has the potential to improve malware detection in IoT devices while maintaining user privacy and data security.

Keywords: IoT security, IoT devices, Federated Learning ed Tomography, Gradient Mutated Leader Algorithm, Convolution Neural Network

COVID-19 VIRUS DETECTION USING DEEP RESIDUAL NETWORK

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ABSTRACT

Corona virus disease 2019 (COVID-19) is an ongoing global pandemic that has spread rapidly since December 2019. Real-time reverse transcription polymerase chain reaction (RT-PCR) and chest computed tomography (CT) imaging both play an important role in COVID-19 diagnosis. Chest CT imaging offers the benefits of quick reporting, a low cost, and high sensitivity for the detection of pulmonary infection. Originally CT scan image is considered as input and it will be pre-processed using adaptive bilateral filter for eliminating noises exist in input image. Meanwhile, augmentation of data will be executed based on rotation, shifting, flipping and zooming methods. After that, lung lobe segmentation will be performed using U-Net++, which segments the lung lobe region from augmented image. Besides, lung lesion segmentation will be done using kernel-based Bayesian fuzzy clustering model. Hence, the significant features, like Convolution Neural network (CNN), Gray-Level Co-occurrence Matrix (GLCM), and Local Directional Pattern (LDP) will be extracted from lung lesion segmented image. Finally, classification of Covid-19 will be executed based on Dense Net model, which affords the outcome as positive and negative. In addition, the Dense Net model will be trained by proposed optimization algorithm, Named Gradient Mutated Leader Algorithm (GMLA). Accordingly, the proposed GMLA is newly introduced by integrating Gradient descent algorithm with Mutated ed Tomography, Gradient Mutated Leader Algorithm, Convolution Neural Network Leader Algorithm (MLA).

Keywords: Chest Comput

AUTOMATION OF INFORMATION GATHERING TOOL FOR ETHICAL HACKERS

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ABSTRACT

Ethical hacking is a process of detecting vulnerabilities in an application, system, or organization's infrastructure. This tool is helpful for ethical hackers to perform Information gathering on a system or network. In real life, Ethical Hackers use a lot of tools for Information gathering. Various tools are used for different kinds of purposes. One of the biggest tasks faced by Ethical Hackers is finding tools. This task can be intimidating since a lot of time and effort are needed in accomplishing this task. This tool can be handy to ethical hackers and saves a lot of time as they can focus on various tasks of an ethical hacking. Currently, we have individual tools for phases in hacking to find the Information's, it takes a lot of time for the user to use a separate tool for each task. In our project, we have a single tool has the modules such as Instagram Information gathering, Trace IP, PDF Meta data analysis, Username enumeration. For instance, the first module is Instagram Information gathering using this module we can easily find out the Instagram accounts information. The same procedure is followed to access different modules accordingly.

Keywords: Trace IP, Detecting Vulnerability, Ethical hacking.

APPLICATION FOR ALERTING COVID-19 CONTAINMENT ZONE

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ABSTRACT

In a densely populated country like India, it is very difficult to prevent the community transmission even during lockdown without social awareness and precautionary measures taken by the people. Recently, several containment zones had been identified throughout the country and divided into red, orange and green zones, respectively. The red zones indicate the infection hotspots; orange zones denote some infection and green zones indicate an area with no infection. Our project mainly focuses on development of an Android application which can inform people of the COVID-19 containment zones and prevent trespassing into these zones.

Keywords: Android application, Security

ENHANCEMENT OF DETECTION OF DIABETIC RETINOPATHY USING HARRIS HAWKS OPTIMIZATION WITH DEEP LEARNING MODEL

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ABSTRACT

In ancient times, an accurate diabetes prediction and type of classification are the most important and demanding tasks in the medical field for providing proper diagnosis to the patients. For this purpose, various machine learning based detection systems are developed in the conventional works to predict the diabetes from the given dataset. Still, it has some limitations with the factors of difficult to understand, high time requirement for training and testing, over fitting, and error outputs. Therefore, the proposed research work objects to implement a group of data mining techniques for developing an automated and efficient diabetes detection system. In this framework, an Inherent Coefficient Normalization (ICN) technique is implemented at first for preprocessing the PIMA Indian dataset obtained from the repository, which highly improves the quality of data for processing. Then, an Intelligent Harris Hawks Optimization (IHHO) technique is utilized to optimally select the features for training the classifier. Finally, the Pivotal Decision Tree (PDT) based classification technique is deployed to predict the data as whether diabetes or non-diabetes with reduced computational complexity and time consumption. During analysis, the performance and results of the proposed IHHO-PDT technique is validated and compared using various measures.

Keywords: Diabetes Retinopathy detection, Deep Learning, Convolutional neural network

IOT BASED BANK LOCKER SYSTEM USING FINGER PRINT AND GSM TECHNOLOGY

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ABSTRACT

The aim of this project is a decrease the thefts that are occurring in our day to day life in bank locker security system. Fingerprint bank locker security system with OTP provides access for only authored users. It prevents the concept of proxy a finger print is one of the biometrics and are unique for an individual. In this system, bank officials will collect the biometric data from the abcarie person and feed them to the required database. This gives access only for matbeatic person and proxy can be eliminated.

Keywords: Locker Security System, Fingerprint Sensor, Solenoid Lock

EFFICIENT BUG HUNTING: A NOVEL TOOL FOR STREAMLINING THE BUG BOUNTY PROCESS

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ABSTRACT

The Bug Bounty Hunting Tool is a comprehensive software solution designed to aid security researchers in identifying and reporting vulnerabilities in web applications. This tool includes a range of features to facilitate efficient and effective testing of web applications. The tool begins with web crawling and web scraping capabilities to gather data from the target website. This data is then used to identify vulnerabilities such as cross-site scripting (XSS) and click jacking attacks. Additionally, the tool can detect host header injection and open directories, which can often be used to gain unauthorized access to sensitive information. To ensure the stability and security of the website, the tool includes a website status checker to monitor website uptime and performance. It also has a port status checker to verify that all ports are properly secured and closed to unauthorized access. The tool also includes a URL redirection checker to ensure that users are redirected to the correct page, as well as a password hash checker to identify weak password hashes that can be easily exploited. Finally, the tool includes network traffic analysis capabilities to monitor and analyze network traffic to identify potential vulnerabilities and attacks. Overall, the Bug Bounty Hunting Tool is an essential resource for security researchers looking to identify vulnerabilities and report them to website owners to help ensure the safety and security of web applications.

Keywords: Bug Bounty program, vulnerability disclosure, software security.

STRUCTURAL AND TEXTUAL INFORMATION FUSION FOR SYMPTOM AND DISEASE REPRESENTATION LEARNING

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ABSTRACT

The “Structural and Textual Information Fusion for Symptom and Disease Representation Learning” project aims to develop a novel approach to represent symptoms and diseases using both structural and textual information. This project addresses the challenge of incomplete and inconsistent symptom and disease information, which can lead to inaccurate diagnosis and treatment. The proposed approach will use both structural and textual information to represent symptoms and diseases. The structural information will include the relationships between symptoms and diseases, while the textual information will be extracted from medical texts such as electronic health records and clinical notes. The project will involve three main steps: (1) building a graph-based representation of symptoms and diseases using structural information, (2) extracting relevant textual information from medical texts and linking it to the graph-based representation, and (3) training a deep learning model to learn the representation of symptoms and diseases based on both structural and textual information. The expected outcomes of this project include a better representation of symptoms and diseases, improved accuracy of disease diagnosis and treatment, and better disease management. The proposed approach can be applied in various healthcare settings, including clinical decision support systems, disease management systems, and medical education.

Keywords: Network, Disease Representation Learning, Disease Prediction

USER BEHAVIOR PREDICTION OF SOCIAL HOTSPOTS BASED ON MULTIMESSAGE INTERACTION AND NEURAL NETWORK

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ABSTRACT

The paper proposes a method for predicting user behavior in social hotspots using multimessage interaction and neural network models. Social hotspots are defined as locations where a large number of people gather and engage in social activities, such as tourist attractions, shopping centers, and sports stadiums. The proposed method involves collecting multimessage data from users, including social media posts, location data, and other contextual information. This data is then processed and fed into a neural network model, which is trained to predict user behavior in social hotspots. The results of the study show that the proposed method is effective in predicting user behavior in social hotspots. The neural network model achieved high accuracy in predicting user behavior, with an overall prediction accuracy of over 90%. Overall; the paper highlights the potential of multimessage interaction and neural network models in predicting user behavior in social hotspots, which could have implications for a wide range of applications, including urban planning, tourism, and marketing

Keywords: Neural Networks, Machine learning, Predictive Models

HELPDESK SERVICES FOR COLLEGE STUDENTS

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ABSTRACT

The Helpdesk Services for College Students project aims to provide a comprehensive and reliable support system to assist college students in their academic and personal needs. The project involves the development of a helpdesk service that provides assistance through various communication channels such as phone, email, chat, and in-person visits. The helpdesk service will have a team of trained professionals who will provide students with information, advice, and support on a wide range of topics including academic guidance, course selection, financial aid, campus resources, mental health, and career planning. The project will also include the implementation of a ticketing system that allows students to submit requests and inquiries through a web-based platform. The ticketing system will streamline the communication process between students and helpdesk staff, ensuring that all requests are addressed promptly and efficiently. The Helpdesk Services for College Students project aims to enhance the overall student experience by providing timely and effective support to help students overcome academic and personal challenges. The project will promote student success and retention by ensuring that students have access to the resources and support they need to succeed in their academic pursuits.

Keywords: Services Level, Prototypes, Reliable Support System

PARENTAL MONITORING AUTOMATION USING KEY LOGGER

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ABSTRACT

Due to pandemic school students are attending the classes in Online so the user of internet is increased much bigger than previous years . The internet have much good things and bad things also so parents are be aware about it and the know what they doing so we use Key loggers is the action of recording the key stroke on a keyboard The proposed point Key logger which is likewise called as keystroke logger is a product that tracks or logs the key struck on your console, regularly in a mystery way that you have no clue about that your activities are being observed. Most of the people tend to see only bad side of this particular software but it also has legitimate use.. Mostly the key loggers are in hardware and software and the data are stored in that system only but in this project we use steganography on akeylogger and the dates are directly send to parent e-mail account, we inject our software into a image, word documents, audio, or video file. When the file opened in the system the key logger starts working, the parents get mail from their child laptops or computer in certain interval to the parents.

Keywords: Keylogger, Steganography, Keystroke.

REAL TIME VEHICLE COLLISION DETECTION USING BOUNDING BOX METHODOLOGY WITH ALARM SYSTEM

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ABSTRACT

Accident detection is an essential application in intelligent transportation systems for the safety of drivers and passengers. In recent years, deep learning- based object detection models have shown significant improvements in detecting objects in real-time. YOLO (You Only Look Once) is one such model that has gained popularity due to its real-time performance and high accuracy. In this paper, we propose an accident detection system using YOLOv5, a state-of-the- art version of YOLO. The proposed system is designed to detect three types of accidents, namely vehicle rollover, rear-end collision, and head-on collision. The system uses a pre-trained YOLOv5 model trained on the COCO dataset, which is fine tuned on a custom dataset of accident images. The proposed system achieves an average precision of 0.94 for vehicle rollover detection, 0.93 for rear-end collision detection, and 0.92 for head-on collision detection. The system also shows promising results in terms of real time performance, with an average processing time of 0.03 seconds per frame on an NVIDIA GeForce GTX 1080 Ti GPU. The proposed system can be integrated into intelligent transportation systems to provide real-time accident detection and alerting, improving the safety of drivers and passengers on the road.

Keywords: YOLO, Detection, Real Time Performance.

CLASSIFICATION AND DETECTION OF DIFFERENT TYPES OF ATTACK IN WSN BY USING MACHINE LEARNING

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ABSTRACT

A key component for preserving a WSN's integrity is designing an intrusion detection system (IDS). This article covers several sorts of security threats that may occur in a WSN. It proposes a detection of malicious nodes in a WSN. This system identifies four common assaults (i.e., black hole, wormhole, gray hole, and DDoS attacks) and is based on a Base Station machine learning (ML) algorithm (BS). The suggested ML algorithm continually analyzes data patterns from each node. Based on this technique, BS recognizes the network's harmful behavior and provides notifications to neighbor nodes to prevent attacker. First, the various assaults are examined and their characteristics are derived in terms of network parameters. Furthermore, the gathered pattern trains an ML algorithm. Then, the attacker node is effectively and properly classified within the BS. The NS2 simulator simulated the needed secure WSN. The experimental findings revealed excellent accuracy of the suggested method for attack detection. This precision can enhance network performance in terms of energy usage and packet delivery (PDR).

Keywords: Base Station machine learning, Intrusion Detection System, ML algorithm.

ONLINE SHOPPING USING E-COMMERCE

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ABSTRACT

An e-commerce website is a digital platform where businesses can sell their products or services online. With the rise of the internet and the growing trend towards online shopping, e-commerce websites have become an essential tool for businesses looking to reach a wider audience and increase their sales. This abstract will provide an overview of the key features and benefits of an e-commerce website, including the ability to showcase products, accept payments securely, and provide customers with a convenient and easy shopping experience. Additionally, it will explore some of the challenges and considerations businesses need to keep in mind when developing and maintaining an e-commerce website, such as website design, search engine optimization, and cyber security. Overall, an e-commerce website can be a powerful tool for businesses looking to grow their customer base and increase their revenue in the digital age.

Keywords: Services Online, Website Design, Search Engine Optimization and Cyber Security.