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To impart quality technical education emphasizing innovations and research with social and ethical values.

MISSION

1. Establishing state-of–the-art infrastructure, effective procedures for recruitment of competent faculty and innovative teaching practices.
2. Creating a conducive environment for nurturing innovative ideas and encouraging research skills.
3. Inculcating social and ethical values through co-curricular and extra-curricular activities.

ENHANCING BREAST CANCER DETECTION USING ADABOOST CLASSIFIER

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Abstract:

Breast cancer, a prevalent and life-threatening disease, demands advanced diagnostic tools to improve early detection and intervention. With the help of the potent gradient boosting technique known as Adaboost classifier, this work suggests a novel way to improve breast cancer detection. The model gains a deep understanding of the patterns linked to benign and malignant instances through a rigorous process of data gathering, preprocessing, and feature extraction from medical imaging data. A well defined dataset is chosen to train and refine the Adaboost classifier. Cross-validation is used to guarantee reliable performance. Evaluation measures that show the model's effectiveness in differentiating between benign and malignant case instances include accuracy, recall, and F1 score. Analyzed and visualized features facilitate better interpretation of the model and offer insights into the key factors influencing the model's judgments. Continuous improvement strategies, including model updates and feedback integration, contribute to its adaptability to evolving cancer patterns. One promising way to improve breast cancer detection is to implement the trained Adaboost model into clinical workflows while abiding by ethical and regulatory requirements. This study adds to the continuing efforts to improve breast cancer detection's accuracy and dependability, which will promote early diagnosis and better patient outcomes.

Keywords: Breast cancer, Convolutional Neural Network, Decision Tree, Adaboost

ANALYSIS OF MACHINE LEARNING MODELS ON FAKE NEWS DETECTION AND AUDIO SPOOF ATTACKS ON SOCIAL MEDIA NETWORKS.

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Abstract:

Spoofing attack plays a critical role in the latest screenplay.. Audio spoofing is a critical threat of national security. The main purpose of anti-spoofing is to detect fake audios synthesized by advanced procedure. The recent technique use convolutional neural networks as classifiers,

which gave unsatisfactory outcome. to the unknown attacks. The dynamic routing algorithm is made alteration to get better outcome for text to speech, voice conversion attack. The capsule network will help to detect replay attack. Fake news or fake information is propagating throughout the social media in different condition. The detection of the fake news from the genuine information is a crucial task. An algorithm using Recurrent neutral network with Gated Recurrent unit taking important features in consideration was put in effect which helps in detecting some of the fake information. In the context of illegitimate audio, Mel –frequency cepstral coefficients is used, for detecting fake audios from real one. In the case of deep fake videos, convolutional neural network with long short-term memory was used to differentiate fake from real video frames. YOLO fake detector can be used for real time object detection from the fake objects in the video frames. The paper analyse the different techniques of detecting audio,video,fake information or news which is circulated in the social media network. It also explain about the advantages and disadvantages of these mechanism. The paper also specifies the use of Advanced Convolutional Neural Network architectures to yield better accurate result for the deliberately misleading and biased information.

Keywords: Audio Spoofing. Fake news, Fake voice, Dynamic Routing Algorithm, DeepFake, Gated Recurrent neural unit Mel-frequency cepstral coefficients,yolo

IMAGE STEGANOGRAPHY: A REVIEW OF THE RECENT ADVANCES

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Abstract:

Steganography, which provides security through obscurity, is the art and science of writing secret messages so that no one knows about them except the sender and intended recipient. RSA encryption-based picture steganography is a safe data concealing method that combines the ideas of cryptography and steganography to conceal sensitive information inside an image that is invisible to the unaided eye. One popular public-key cryptography algorithm that is essential to improving the security of the hidden data is RSA encryption. Unauthorized users will find it far more difficult to access the hidden material because the secret message is encrypted using the recipient's public key, rendering the embedded data illegible without the matching private key. Sensitive data can be transmitted securely and robustly thanks to the combination of picture steganography, which hides the existence of concealed data inside the image, and RSA encryption, which guarantees the confidentiality of the embedded message.

Keywords: Steganography, Image Steganography, Information Security, Secure Communication.

EARLY INTERVENTION STRATEGIES: ENABLING THE IDENTIFICATION OF DYSLEXIA IN TODDLERS

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Abstract:

This project proposes the development of a comprehensive digital approach aimed at the early identification and management of children with dyslexia. To address the challenges of diagnosing dyslexia, especially in its simple stages, this platform uses interactive games and activities, with machine learning algorithms integrates and analyzes EEG (Electroencephalogram) data for the detection of reading disorder with emphasis on user friendly, the platform partners with it educational institutions to ensure a holistic approach with parents, teachers, and health professionals to engage in privacy and security measures to protect sensitive health information. The platform creates personalized learning programs, adds accessibility features, and facilitates continuous improvement through user feedback. By combining fostering collaboration, providing educational resources, and professional mentoring, this program aims to enhance the learning experience of children with dyslexia and contribute to their overall development.

Keywords: MachineLearningAlgorithms,EEG(Electroencephalogram),Security,User friendliness.

ENHANCING DATA SECURITY THE POWER OF BLOCKCHAINBASED SECURE COMPUTING

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Abstract:

The encryption serves as the primary safeguard for transferring files from the user to the server. The process of encryption can be achieved through AES encryption method. When a user seeks

access to an encrypted file, they must first request permission from the data owner, triggering an authentication process. The data owner verifies the user's identity, typically through an ID check, and then makes a decision to either grant or deny access. If permission is granted, the user gains access to the decrypted file; otherwise, access remains restricted. This method ensures data integrity and confidentiality, protecting sensitive information from unauthorized access or tampering.

Keywords: Blockchain, Authorization, Authentication, AES encryption and Decryption, Homomorphic authenticators, Message transfer, Cyber Security, Digital Signature, Encrypted File, Data Owner, Client.

EXPLORING ADVANCED TECHNIQUES FOR STOCK MARKET PREDICTION WITH BIG DATA: A FOCUS ON LSTM METHODOLOGY

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Abstract:

Big data has emerged as a pivotal asset across diverse sectors, driving advancements and innovations. Its significance is particularly pronounced in various industries, including finance and banking, where it is actively employed to monitor financial market activities. Traders, major banks, financial institutions, and corporations are increasingly leveraging big data to generate trade analytics, particularly in high-frequency trading scenarios. Our primary objective is centered around enhancing the efficiency of stock market data prediction, which plays a critical role in formulating effective trading strategies for investors. The successful forecasting of future stock prices is integral to maximizing investor profitability. Big data encompasses vast volumes of both structured and unstructured data, offering immense potential in stock prediction and analysis. A multitude of tools are utilized for stock market prediction, given the dynamic and complex nature of financial markets. Among these techniques, Long Short-Term Memory (LSTM) stands out as a promising method for predictive analysis using time series data. Our proposal involves utilizing LSTM to predict future stock prices based on closing price data, with the aim of optimizing investment returns for investors.

Keywords: Big data, Long Short-Term Memory, Recurrent Neural Network.

AN EXTENSIVE REVIEW ON DEEP LEARNING TECHNIQUES FOR LUNG DISEASE DIAGNOSIS

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Abstract:

The significant impact of lung diseases on global health emphasizes the need for accurate and timely detection methods. Tens of millions of individuals in the US alone suffer from lung illness. The majority of lung diseases are brought on by infections, smoking, and genetics. Recently, COVID-19 has affected a large number of people worldwide and has also led to a pandemic situation. Thus, we require an effective diagnosis technique in this case. An artificial neural network serves as the foundation for the machine learning subfield known as deep learning. These techniques have shown a lot of promise in recent years for improving lung disease identification. This comprehensive investigation covers a variety of modalities, including clinical data and deep learning techniques, in order to investigate the subject of lung ailment identification through deep learning. This work provides a thorough analysis of the literature, highlighting advancements, challenges, and potential future directions in the use of deep learning for precise and efficient lung disease diagnosis.

Key word: Deep learning, CNN, Image recognition, Lung diseases diagnosis.

FOOD DONATION AND DISASTER RELIEF MANAGEMENT SYSTEM

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Abstract:

In response to the evolving landscape of disaster management and relief efforts, the integration of a comprehensive Food Donation System with a state-of-the-art Disaster Relief Management System emerges as a groundbreaking solution. The integrated system leverages machine learning

algorithms for prioritization, demand forecasting, and route optimization within the food donation process. The Disaster Relief Management System is activated when an emergency alert is issued by the weather forecasting mechanism by utilizing a reliable weather API to retrieve and analyze forecasted weather data, including parameters such as temperature, precipitation, and wind speed. Once the system is activated during emergencies, the integrated platform seamlessly coordinates donor contributions, volunteer mobilization, and logistics optimization. If no alert is issued the food donation system works normally. Real-time communication channels facilitate collaboration, ensuring that surplus food resources and other required items are efficiently transported to disaster-stricken areas. The implementation encompasses API development, secure authentication, and realtime data communication, fostering a user-friendly experience for donors, volunteers, and relief organizations. This integrated system promotes continuous improvement through user feedback, iterative enhancements, and a robust monitoring and maintenance framework, optimizing the effectiveness of food donations in disaster relief efforts. As a comprehensive solution, this project serves as a testament to the potential of technology in fostering resilience, efficiency, and compassion in disaster management, laying the foundation for more responsive and effective relief systems in the future.

Keywords: Food donation, Disaster Relief Management, Volunteer Management, Weather Forecast, Machine Learning, Artificial Intelligence

REVOLUTIONIZING ALZHEIMER'S DIAGNOSIS: CNN-BASED EARLY DETECTION THROUGH BLOOD PLASMA ANALYSIS

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Abstract:

In particular, in the field of computer vision, deep learning a cutting-edge technique to machine learning has shown exceptional performance above classical machine learning in recognizing complex patterns in high-dimensional, complicated data. Due to the vast amount of multi modal neuro imaging data produced by the fast advancement of neuro imaging methods, there been a lot of interest lately in the use of deep learning to automated categorization and early diagnosis of Alzheimer's disease (AD). Among the several forms of dementia is Alzheimer's. It's a brain dysfunction illness that first strikes adults over 60, but it's now also affecting those in their middle years. As a result, we concentrate on this illness, and different methods are being used to attempt to manage it. One of the challenges with large-scale data set processing prediction is feature extraction; the difficulty is in the inability to accurately extract features from data sets

and classify them. Convolutional Neural Networks (CNNs), which are effective in feature extraction and classification, are our solution to the problem. Selecting and extracting features is one of the crucial elements in the classification process, must look at feature extraction and selection in order to improve performance and get better classification. so that an accurate result may be found with ease.

Keywords: Alzheimer's Disease, Deep learning, Convolutional Neural Network, Classification, Neuroimaging

LIFE SAVER: A VADE-BASED INTELLIGENT AMBULANCE POSITIONING SYSTEM FOR OPTIMAL EMERGENCY RESPONSE AND ALERT SYSTEM

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Abstract:

Every day, the number of traffic accidents rises as the automobile population increases. According to a survey by the World Health Organization (WHO), 1.3 million people die and 50 million are wounded annually around the globe. In order to operate efficiently as well as effectively ambulances should be deployed in areas where there is maximum demand and the ambulance should be able to reach the victim within a drive time of five minutes. To revolutionize emergency response strategies by proposing a novel unsupervised generative clustering approach employing Variational Deep Embedding (VaDE). Variational Deep Embedding (VaDE) is a 4-step data generation process that uses deep neural networks and a Gaussian Mixture Model to optimize ambulance positioning strategies. The current system struggles to achieve swift response times, leading to delays in reaching accident scenes. Ambulances are not consistently deployed based on areas of maximum demand, resulting in potential delays in critical situations. Timely recovery actions post-accident crucial for saving lives. Routing issues and traffic congestion hinder swift assistance. VaDE-based clustering optimizes ambulance positioning for quicker response. Real-time alerts to hospitals and traffic departments expedite ambulance travel.Routing problems and traffic congestion contribute to sub optimal ambulance routes, hampering timely assistance. Traditional clustering methods fall short in identifying highrisk accident sites and strategically placing ambulances for optimal response.

Keywords: Variational Deep Embedding (VaDE), Traffic Congestion, World Health Organization (WHO).

DIGITAL EVIDENCE SECURITY SYSTEM USING BLOCKCHAIN

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Abstract:

Digital evidence is defined as information and data of value to an investigation that is stored on, received, or transmitted by an electronic device. In criminal investigations, civil lawsuits, and regulatory compliance, digital evidence such as electronic documents, recordings, and transaction records forms the basis for decision-making. However, factors like data alteration, unauthorised access, or flaws in centralised storage can threaten the security and integrity of digital evidence. Therefore, a secure storage model is needed to improve the investigation process and safeguard any sensitive information collected. To address the lack of an automated mechanism for preserving evidence and maintaining integrity, a model was developed targeting the various security and forensic aspects during the investigation lifecycle. An efficient forensics architecture is proposed that establishes the Chain of Custody (CoC) in blockchain technology and tamper detection using Deep Learning Models, where participating stakeholders create a private network to exchange and agree on different investigation activities before being stored on the blockchain ledger. Detecting tampering in various types of files using deep learning algorithms are Image with CNN, Word Document Embedding's using BERT. Video Frame-level Analysis with TCN, Audio Spectrogram Analysis with HMM, PDF Document Structure Analysis. Utilizing fuzzy hash functions. enables forensic investigators to successfully deal with permissible alteration of digital evidence by standardizing the forensics processes, DB-CoC architecture enforcing a standard approach and improves the quality of the finished result. The proposed architectural solution. delivers robust information integrity, prevention, and preservation mechanism to permanently and immutably store the evidence (chain of custody) in a private permissioned encrypted blockchain ledger. The proposed DB-CoC architecture provides complete data provenance, traceability, and assurance for performing different operations as well as trust between the chain of custody events while collecting, storing, analysing. and interpreting the digital evidence.

Keywords: Blockchain Technology, Chain of Custody, Digital forensic, DeepLearning and Tamper Detection, Fuzzy Hash Function

AN AUTOMATED SOIL NUTRIENT MONITORING FOR IMPROVED AGRICULTURE USING INTERNET OF THINGS

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Abstract:

Thriving crops start with healthy soil. Its ability to nourish them, known as soil fertility, hinges on a balanced nutrient profile. NPK sensors, coupled with Arduino controllers, offer a convenient and precise tool for rapid soil nutrient assessment. Nitrogen, phosphorus, and potassium (NPK) are the essential players in this equation, dictating crop health and guiding fertilization decisions. Traditional methods like spectral analysis, while established, can be cumbersome and offer limited accuracy (60-70%). Wet chemistry methods, though reliable, lack the speed and portability of sensor-based solutions. This study introduces a cost-effective sensor system built around an Arduino UNO board, equipped with NPK, temperature, and moisture sensors. This versatile data collector provides a comprehensive picture of your soil, including moisture content, temperature, water level, and NPK values. All this data is securely stored in the AWS cloud, readily accessible through a dedicated application for farmers. This real-time monitoring system empowers informed decision-making, allowing farmers to optimize soil amendments and cultivate thriving crops.

Keywords: NPK sensors, Arduino, AWS cloud storage

LEAF DISEASE DETECTION USING DEEP LEARNING

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Abstract:

Plant diseases can severely impact agricultural productivity if not promptly identified and treated. This proposes an approach of using pretrained deep CNN on an open dataset comprising 52 categories of various diseases and healthy plant leaves .The EfficientNet B3-AADL model is used to achieving an accuracy of 98.71%. It helps in real time plant disease diagnostics and finding the cure in agriculture system. This method facilitates realtime plant disease diagnostics, aiding in swift intervention and treatment in agricultural systems. In addition to its high accuracy, our approach offers
scalability and cost-effectiveness, making it accessible to farmers across diverse agricultural settings. Early disease detection capabilities empower farmers to intervene promptly, minimizing crop damage and optimizing resource allocation. Furthermore, the adaptability of the model to evolving disease patterns ensures its relevance over time.Integration with precision agriculture systems enhances decision-making processes, while the potential for automation holds promise for future advancements in agricultural technology. Ultimately, this approach contributes to global food security efforts by safeguarding crop yields and ensuring a stable food supply for growing populations.

Keywords: Convolutional neural networks (CNNs),Disease detection,EfficientNet B3-AADL, Plant diseases,Agriculture, Deep learning.

GEO TRASH TRACKER

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Abstract:

In modern days, we desire a healthy and hygiene-friendly environment for our society. We see multiple dustbins with an overflow of waste in urban areas. This situation is created by pathogens, which spread diseases in our society, affecting the Clean India mission. So, we designed a system aimed at improving the effectiveness and sustainability of waste collection and disposal processes.In this setup, once the dustbin reaches its maximum capacity, a notification containing its live location is dispatched to the corporation. The detection of the dustbin's capacity is facilitated by employing an ultrasonic sensor. Then the level of garbage is displayed by an LCD, and the level is sent to the corporation. This helps in the timely collection of garbage.As the rain falls into the trash can, the stench affects our society. The raindrop sensor detects the raindrops, and the trashcan will be automatically closed. This helps to reduce the

stench and improve a healthy environment. If, suppose, after sending the live location notification, the dustbin is not cleaned by workers, then the notification is sent to the higher authority. Then, if the dustbin is empty or less than 80% capacity, a message is sent to the corporation (Cleaned). This helps the higher officials determine whether the workers are working properly or not. We used efficient and inexpensive components to make this project economical. It can be easily understood by the workers and reduces the overflow of garbage. This system is used to improve our nation, concluding that it helps us save time, energy, cost, and fuel, while also improving the concept of less human intervention and speeding up the process.

Keywords: Ultrasonic sensor, raindrop sensor, IR sensor, IoT, Dustbin

SYNERGISTIC IMAGE STEGANOGRAPHY: ENHANCING CONCEALMENT THROUGH LSB EMBEDDING AND LZW

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Abstract:

The field of information security has been significantly influenced by the advancement of steganography, a strategic method of concealing data within seemingly harmless vehicles. This research explores the integration of two effective techniques - the Least Significant Bit (LSB) method and the Lempel-Ziv-Welch (LZW) compression algorithm - for image steganography. With the LSB method, we can discreetly insert information by modifying the smallest bits of pixel values, while the LZW compression guarantees effective storage and transmission of the covert data. Our methodology delves deeply into two key techniques, shedding light on the complexities of the LSB embedding process and the LZW compression algorithm. By merging these methods, we aim to achieve a harmonious blend of invisibility and payload capacity. After conducting thorough experimentation using a varied dataset, we showcase the efficacy of our suggested method. Our evaluation criteria confirm the ability to conceal information effectively, considering its implications on the quality of the image.

Keywords: Image Steganography; LSB (Least Significant Bit); LZW (Lempel-Ziv-Welch) Compression.

ONLINE COMPLAINT REGISTRATION AND MANAGEMENT SYSTEM THROUGH ANDROID APPLICATION

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Abstract:

Online Complaint Management Based on Android aims to create social awareness and responsibility among the public. The primary objective of this initiative is to enhance society's well-being by enabling people to report their unresolved social grievances without hindrance, through capturing photographs and posting them. The project's goal is to monitor societal issues and address grievances effectively. This paper seeks to promote awareness among individuals by delivering truthful information.Context-Based Complaint Management Based on Android fosters social awareness and responsibility among the public, facilitating the monitoring and resolution of societal problems. It offers online complaint registration and feedback on resolved complaints, along with real-time access to Google Maps.The system architecture comprises a robust backend server for processing and managing complaints. It utilizes algorithms for automatic complaint categorization, priority assignment, and routing to relevant departments. Advanced features include AI-driven insights for predicting complaint resolution times, personalized notifications, and feedback mechanisms for users to rate the resolution process.Moreover, the system provides comprehensive analytics and reporting tools for administrators to monitor performance metrics, identify service bottlenecks, and implement strategic improvements.

Keywords: Android Application, Web Application, Database

INTELLIGENT TRAFFIC MANAGEMENT SYSTEM: AN ADVANCED SOLUTION FOR HELMET COMPLIANCE, TRAFFIC SIGNAL VIOLATION DETECTION, NUMBER PLATE IDENTIFICATION, CELL PHONE USAGE TRACKING, AND PROXIMITY-BASED POLICE STATION ALERTS

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Abstract:

The Intelligent Traffic Management System (ITMS) is a sophisticated solution designed to tackle various urban traffic management challenges. This comprehensive system utilizes cutting-edge technologies to ensure helmet compliance, detect traffic signal violations, identify license plates, track cell phone usage, and provide police stations with proximity-based alerts.ITMS employs computer vision algorithms to accurately identify helmetless individuals. Additionally, it utilizes computer vision and machine learning techniques to detect traffic signal violations, including red light running, by analyzing live video feeds from traffic cameras. This enables law enforcement to take appropriate actions against violators.Furthermore, ITMS features number plate identification through optical character recognition, facilitating efficient and automated vehicle movement monitoring. This enhances traffic surveillance and AI&DS in identifying vehicles involved in criminal activities.Another crucial aspect of ITMS is its ability to monitor cell phone usage while driving. By leveraging mobile network data and smart devices, the system can detect drivers using cell phones and generate alerts to deter distracted driving.Moreover, ITMS sends proximity-based alerts to police stations, enabling faster response times and efficient deployment of law enforcement personnel during emergencies or traffic incidents.In summary, ITMS is a sophisticated and all-encompassing solution that combines advanced technologies to improve road safety and streamline traffic management. By integrating features such as helmet compliance, traffic signal violation detection, license plate identification, cell phone usage tracking, and proximity-based police station alerts, ITMS aims to enhance the commuting experience and ensure safer roads.

Keywords: Intelligent Traffic Management System, helmet compliance, traffic signal violation, license plate identification, cell phone usage tracking, proximity-based police station alerts.

A CUTTING-EDGE FRAMEWORK FOR EFFICIENT IMAGE DEHAZING AND ACCURATE IMAGE SEGMENTATION USING ADVANCED DEEP LEARNING TECHNIQUES

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Abstract:

In recent years, image dehazing and image segmentation have emerged as vital tasks in computer vision, with numerous applications in various fields. This paper presents a cutting-edge framework that combines advanced deep learning techniques to address the challenges associated with efficient image dehazing and accurate image segmentation. The proposed

framework leverages convolutional neural networks (CNNs) and generative adversarial networks (GANs) to enhance the quality of hazy images and accurately segment objects within the images. First, a specially designed CNN architecture is employed to learn effective features from hazy images, enabling the model to estimate and remove the haze efficiently. Next, a GAN-based approach is integrated into the framework to refine the dehazed images and alleviate artifacts commonly introduced during the dehazing process. Furthermore, an improved segmentation network is utilized to accurately identify and extract objects of interest from the dehazed images, offering precise and reliable segmentation results. Extensive experiments are conducted on benchmark datasets, and the results demonstrate the superiority and effectiveness of the proposed framework in both image dehazing and image segmentation tasks. Overall, this work contributes to the advancement of image processing techniques and offers a valuable solution for enhancing the quality of hazy images and performing accurate object segmentation in various applications.

Keywords: image dehazing, image segmentation, deep learning, convolutional neural networks, generative adversarial networks, object extraction.

AUGMENTED REALITY ON SOCIAL MEDIA

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Abstract:

The term Augmented Reality (AR) refers to a technology that integrates virtual objects with the real environment and enables them to interact directly with each other. Nowadays, augmented reality is receiving a significant amount of research attention. It is one of the few ideas that, although previously considered impractical and unattainable, can now be effectively utilized. Research and development on AR are still in their early stages at many universities and advanced enterprises. Similar to our smartphones and computers, many researchers anticipate that AR will become one of the most popular technologies in the future. This paper provides a comprehensive analysis of AR, including its functionality, applications, current challenges, and future trends. Although augmented reality applications are utilized in various sectors, this paper focuses on the primary areas of application.

Keywords: Augmented reality, Market research, Research & Development.

RESEARCH ON UNSTRUCTURED DATA MAINTENANCE AND INSIGHT EXTRACTION

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Abstract:

This paper conducts a comprehensive exploration of maintaining unstructured information and extracting insights, specifically focusing on the intricate analysis of textual data. Emphasizing effective data preprocessing and transformation, the project delves into various critical stages, encompassing data cleaning, feature engineering, anomaly detection, and natural language processing (NLP). The project's robust approach, demonstrated through meticulous data cleaning capabilities and customized transformation pipelines, showcases the crucial role of structured methodologies in guiding informed decision-making and uncovering insights from data.

Keywords: Text Data Analysis, Natural Language Processing (NLP), Feature Engineering, Data Visualization, Outlier Detection, Text Classification.

MAINTAINING TRUSTWORTHINESS AND PRIVACY IN MOBILE CLOUD STORAGE

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Abstract:

In this paper, we present a productive, secure, and privacy-preserving mobile cloud storage system that concurrently safeguards data confidentiality and privacy, particularly the access pattern. Specifically, we introduce an Oblivious Storage Update (OSU) protocol as the fundamental building block of the proposed mobile cloud storage system. Through OSU, the

client can obliviously retrieve an encrypted data item from the cloud and update it with a new value by generating a small encrypted vector. This approach ensures secure encryption with constant encryption layers, significantly reducing the client's computation and communication overheads. Our work is particularly efficient and advantageous for Mobile Cloud Storage (MCS) scenarios due to its fine-grained data structure, light client-side processing, and constant connection overhead. Additionally, by employing the file chunks method, our system can be tested for its resilience to malicious cloud attacks. With this improvement, we divide a file into pieces and distribute the fragmented data among multiple cloud nodes. Each server retains a portion of the data file, ensuring that even in the event of a successful attack, the attacker would not gain access to any useful information.

Keywords: Mobile cloud storage, data confidentiality, security-preserving, efficient encryption, replication.

ADVANCEMENTS IN FINGER VEIN DETECTION: A COMPREHENSIVE SURVEY

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Abstract:

A biometric detection system named finger vein recognition studies the vein patterns in human fingers that are concealed under the skin's surface through pattern recognition algorithms. It involves comparing the vascular pattern of a person's finger with previously collected data. This technology is currently being applied and developed in various applications, including credit card authentication, vehicle security, employee time and attendance tracking, computer and network authentication, endpoint security, and automated teller machines. The article presents a novel approach to segmenting finger veins in real-time using an embedded terminal technique. Due to the limitations of current finger vein segmentation networks, which are too large and impractical for mobile terminals, as well as the time-consuming nature of deep networks on hardware platforms, the segmentation index decreases when the lightweight network parameters are reduced.

Keywords: Finger vein, biometric authentication, real-time segmentation, Embedded terminal.

AN EFFICIENT DEEP LEARNING FRAMEWORK WITH HYBRID ALGORITHM FOR REAL-TIME PHISHING WEBSITE IDENTIFICATION

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Abstract:

This article addresses the pervasive topic of internet fraud, focusing on a deceptive tactic in which users are lured into unknowingly revealing important information by impersonating trustworthy websites. Because phishing assaults are dynamic, conventional techniques for identifying phishing websites, such as closely examining URLs and content, have proven to be unproductive. As a result, machine learning methods have emerged as a viable means of identifying these dangerous websites. Machine learning algorithms analyze various aspects and actions of websites to evaluate their legitimacy and distinguish them from authentic websites. Despite the efficacy of machine learning, there remains a noticeable gap in the literature concerning a comprehensive overview of machine learning methods designed specifically for the identification of phishing websites. The primary reason for this discrepancy is the growing popularity of deep learning techniques, which encompass intricate architectures like multilayer perceptrons. Strategies based on deep learning have shown to be far more successful and have garnered a lot of interest in various disciplines, including cybersecurity. To evaluate deep learning-based methods, researchers have utilized a variety of datasets, making it easier for them to determine which models are ideal for phishing detection. Approaches using deep learning have consistently demonstrated a high level of accuracy in recognizing fraudulent websites, indicating their potential to significantly enhance online security. Leveraging the capabilities of deep neural networks could drastically improve fraudulent attack identification and mitigation.

Keywords: deep learning, fraudulent website, gated recurrent unit, long short term memory, web plugin.

ENVIRONMENTAL CHANGE MONITORING SYSTEM

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Abstract:
An Environmental Change Monitoring System tailored for district-level analysis tracks environmental indicators, collects data on impactful behaviors, and visualizes district-wise environmental factors. Utilizing surveys and sophisticated software analysis, it empowers communities to adopt sustainable practices and informs local policies to mitigate environmental impact effectively.

Keywords: Climate change, Human behavior, Environmental change monitoring, Environmental impact, Policy informatics.

INTERNET OF THINGS (IOT) POWERED SMART HORTICULTURE SYSTEM

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Abstract:

Smart horticulture is a novel idea that uses enhanced information technologies to increase the effectiveness and efficiency of plant farming. Farmers can now monitor all procedures more effectively and apply precise treatments that are determined by machines with superhuman accuracy thanks to the latest developments in automation, artificial intelligence, and connectivity. The optimization of the amount of human labor needed for farming is still a goal shared by engineers, data scientists, and farmers. Since the invention of digital electronics, it has been possible to carefully design systems to increase output and optimize processes in many fields, including agriculture. Recently, a major research work has been completed to achieve this goal, even establishing a new field of precision agriculture. An Internet of Things (IoT) system that allows farmers to monitor multiple microclimatic parameters and evaluate the quantity of water required for irrigation has been developed in this research work. The LoRA system received the required parameters such as temperature, moisture content of the soil, and other vital operating parameters via sensors. On the receiver side, the data was analyzed to estimate evapotranspiration.

Keywords: Soil Moisture, Arduino, IoT, Horticulture.

LITERATURE REVIEW: THE ANDROID APP FOR VISUALLY IMPAIRED PEOPLE

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Abstract:

In the real world, books and documents are the source of knowledge. However, this knowledge is limited to those with clear vision. There is a group of people in our society whose vision is not clear, or a group of blind people. Not being able to perform tasks such as sending and reading e-mails, managing programs, finding directions or walking outside or reading newspapers is a disadvantage for visually impaired people in many areas such as law and education. Visually impaired people experience problems and are affected by the lack of appropriate information in their environment because often what they lack is visual information. Thanks to developing technology, visually impaired people can be supported. The concept includes voice assistance, character recognition, profit recognition, e-books, product search, chatbots, etc. It is carried out through Android mobile applications focusing on topics. The app can help identify objects in the environment using voice recognition and perform text recognition to recognize text in printed documents. This can be a great way for blind people to interact with other people and can help blind people live independently.

Keywords: Visual impairment; cost-effective; YOLO ("You only look once"); Computer vision; character recognition; CNN (convolutional neural network); virtual mapping; navigation; speech

A COMPREHENSIVE REVIEW ON FACE DETECTION AND RECOGNITION USING DEEP LEARNING

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Abstract:

Face detection and recognition have garnered immense attention in recent years due to their diverse applications in security, surveillance, human-computer interaction, and biometric

authentication. Leveraging deep learning, significant progress has been achieved in improving the accuracy and robustness of these systems. Furthermore, the paper explores deep learning-based techniques for face recognition, including feature extraction, representation learning, and matching. Attention is given to the integration of transfer learning and domain adaptation to enhance model generalization across diverse datasets and environmental conditions. Ethical considerations regarding privacy and responsible deployment of face detection and recognition systems are also addressed. By synthesizing existing literature, this review aims to provide insights into current trends, challenges, and future directions in the field of face detection and recognition using deep learning.

PLANT NUTRIENT DEFICIENCY DETECTION SYSTEM

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Abstract:

Agriculture plays an important role in the development of all nations as it is the basis of our economy. Food is the lifeblood of plants and is crucial to agricultural growth and health. The plant's lack of a detection system is a decision that involves deep learning, specifically the Inception model, to automatically detect nutrient deficiencies in soybeans using an easy-to-use website Analysis. Using Flask for web development and SQLyog for efficient data management, the system's powerful architecture ensures high performance. Using advanced imaging and classification systems, the program is designed to meet the critical need for fast and accurate food shortage response and enable farmers to grow healthy and profitable crops.The user-centric design promotes accessibility for a diverse range of agricultural practitioners, contributing to the evolution of precision farming. This innovative project holds immense potential to revolutionize agricultural practices, enhance crop yields, and enhance global food security through proactive nutrient management.

Keywords: Agriculture, Nutrient deficiency, Deep learning, Precision farming, Global food security.

E-COMMERCE APPLICATION FOR SMART FARMING

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Abstract:

As the global population continues to surge, the demand for agricultural products intensifies, posing challenges to traditional farming practices. Smart farming, integrating technology with agriculture, has emerged as a solution to address these challenges. This paper presents the design and development of an e-commerce application tailored specifically for smart farming practices.The proposed application leverages cutting-edge technologies such as Internet of Things (IoT), Artificial Intelligence (AI), and Blockchain to create a seamless platform connecting farmers, suppliers, and consumers. Through the application, farmers can access a wide range of agricultural inputs, including seeds, fertilizers, pesticides, and machinery, sourced from verified suppliers.Utilizing IoT sensors deployed in the field, farmers can monitor crop conditions in real-time, enabling data-driven decision-making for optimized yields and resource utilization. Furthermore, the AI-powered recommendation engine provides personalized product suggestions based on crop type, soil conditions, and historical data, enhancing efficiency and productivity.The integration of Blockchain technology ensures transparency, traceability, and security throughout the supply chain, fostering trust among stakeholders. For consumers, the application offers access to fresh produce directly from local farms, promoting sustainability and supporting rural economies.With features such as real-time inventory tracking, secure payments, and doorstep delivery, the platform provides a convenient and reliable shopping experience. Through case studies and simulations, the efficacy of the proposed e-commerce application is evaluated, demonstrating its potential to revolutionize agricultural supply chains, improve farm productivity, and enhance food security on a global scale. The findings underscore the importance of embracing technological innovations in fostering sustainable agriculture and shaping the future of farming.

Keywords: smart farming, blockchain, Machine Learning, artificial intelligence, application, productivity.

VLSI IMPLEMENTATION OF LOSELESS ECG COMPRESSION FOR POWER AND AREA REDUCTION

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Abstract:

An electrocardiogram (ECG) frequently takes a long time to collect adequate data, which is used to diagnose cardiac illness and monitor the heart's electrical activity. A method for reducing the amount of data generated by these systems for health monitoring of biological signals uses different approaches which are basically compression without loss techniques based on run-length coding, dictionary algorithm, and Golomb-rice coding. Reducing the gate count can lead to several benefits, such as decreased power consumption, improved performance, and a reduced cost of production. The MIT-BIH dataset is used in implementation, and a compression ratio of 4.2 was attained. The suggested design consumes 1.8 V supply voltage and 97.5 mW of power at a 1000 MHz operating frequency. In our research, the transmitted power and gate count were reduced.

Keywords: Electrocardiogram (ECG), Run-length Coding, Dictionary Algorithm, Golomb-Rice Coding, MIT-BIH dataset.

PREDICTION AND ANALYSATION OF ROAD SAFETY MANAGEMENT

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Abstract:

Road accidents continue to be a pressing concern for public safety worldwide. In this project, we propose a comprehensive solution leveraging image recognition and deep learning techniques to enhance emergency response efficiency following road accidents. By harnessing

CCTV footage, our system employs advanced computer vision algorithms to accurately analyze and identify objects involved in accidents, including vehicles, pedestrians, and other relevant entities. The key innovation lies in training conventional algorithms within a deep learning framework to achieve superior object detection capabilities. This approach enables the system to adapt and learn from diverse real-world scenarios, resulting in robust performance in identifying accident-related objects. Furthermore, to optimize emergency response, we integrate a greedy search algorithm to determine the shortest and most efficient routes to nearby emergency facilities, such as hospitals, police stations, and fire stations. This ensures swift and effective assistance to accident victims, potentially reducing response times and minimizing casualties. Through rigorous testing and validation, we evaluate the performance of our system in terms of object identification accuracy and route optimization efficiency. Real-world deployment scenarios are considered to assess the practical applicability and effectiveness of the proposed solution. Overall, our project aims to significantly improve the response capabilities to road accidents, ultimately contributing to enhanced public safety and reduced loss of life and property.

Keywords: Accidents, Automobiles, Feature extraction, Deep learning, Cameras, Real-time systems, Roads, Car accident detection, CVIS, machine vision, Computer Vision

E- HOUSE LEASING AND APARTMENT MAINTENANACE

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Abstract:

The house rental issue is one of the elemental parts of society. Nowadays, it is extremely difficult to find suitable accommodation in city areas if people search for it physically. On the other hand, the landowner also needs to rent the house. It can be difficult to find tenants just to hang a lease sign on a building, and as a result, they lose money. An online common platform can play a vital role in this case.The purpose of the study is to develop a common web-based online platform for both tenants and house owners so that both tenants and landowners will mutually benefit from the system. This paper presents the development of web applications for the people of Bangladesh where both house owners and tenants can register and tenants can have houses for rent via sophisticated contact with the house owner.In this paper, a common online-based smart house rental web application has been developed both for tenants and for house owners. This web application is very user-friendly, efficient and it has got many unique

features that are not offered by other currently available house rental websites here in Bangladesh. Tenants can register using their phone number, store information about their identity, search for available houses, send messages to house owners, and choose a suitable house using developed web applications. House owners can also register for the system, which will manually verify and authenticate the knowledge provided by the house owner can view a tenant's information history whenever a tenant makes contact through text and supply house-related information accordingly.The proposed online smart house system has been tested and validated. It works very efficiently with many features. The application provided faster and improved opportunities to get houses, as well as ensuring the availability of houses for rent in the greatest number of areas. The system will help to spread trustworthy services nationwide and supply users with the chance to speak and improve the house rent in Bangladesh.

Keywords: Web Application, Online Platform, House Renting, Smart, Security, Advertise, Network, Remote Interaction.

IMPLEMENTATION OF MEDICATION EMERGENCY DISEASE PREDICTION AND PRESCRIPTION PROVIDING SYSTEM USING MACHINE LEARNING

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Abstract:

The goal of the Health Care Search Engine project is to develop an application for illness prediction. The concept involves creating an application that allows users to search for the therapy for an illness they are suffering from. The program would then provide a list of steps needed to treat the disease effectively, along with information about caregivers who could help.To train the model, a sizable dataset of medical records containing patient demographic and clinical characteristics such as age, gender, medical history, lifestyle choices, and vital signs is utilized. The model predicts the probability of contracting a certain illness based on the patient's features using the Multilayer Perceptron (MLP) algorithm.The MLP algorithm consists of input, output, and one or more hidden layers with many neurons stacked on top of each other. Neurons in a Multilayer Perceptron can employ any arbitrary activation function, such as ReLU or sigmoid. Collaborative filtering is utilized to recommend suitable caregivers for patients.Patients provide their health information to the service platform upon enrolling in the system to receive professional care services. The platform then searches the patient database for other patients with similar health information. The platform then recommends highly rated caregivers who attended to these comparable patients. Ultimately, patients can locate suitable

healthcare services more likely to offer high-quality care services by utilizing this collaborative filtering method.

Keywords: Upload Dataset, Dataset Training, Input Query Data, Multilayer Perceptron, Disease Prediction, Rating/Review Analysis, Solution Recommendation.

BLOCKCHAIN ASSISTED TWO LAYER DATA STORAGE WITH ROLE BASED VERIFIABLE DATA SHARING

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Abstract:

The emergence of fog computing as an expanded version of cloud computing presents new opportunities for effective network services. Fog computing, while sharing similarities with cloud computing, operates on a decentralized platform, offering real-time data processing and storage capabilities. In the realm of digital healthcare, where the security and privacy of medical records are paramount, this project aims to develop a comprehensive system for secure storage and restricted access to medical data.The project leverages the Fog server's data processing and storage capacity through a Three Layer Security (TLS) framework, comprising the local machine, the fog server, and the cloud server. This architecture provides a robust foundation for protecting sensitive healthcare data. Cloud storage is utilized for scalability, while fog computing enables real-time processing. Advanced Encryption Standard (AES) encryption ensures data secrecy, and blockchain technology is employed to maintain data integrity.To manage user and data owner permissions and ensure authorized access, a trusted authority system is implemented. Role-based access control (RBAC) procedures are employed, following the least privilege concept to restrict data access based on user roles. Users can access specific medical records through a secure file request and verification process, adhering to stringent authentication guidelines.In addition to addressing current security concerns, the proposed solution is designed to adapt to future threats in healthcare information management. By incorporating features such as cloud and fog servers, data encryption, blockchain technology, and role-based access control, the system aims to safeguard medical records while facilitating secure data sharing and management.

Keywords: Cloud server, Fog server, Data storage, Index creation, Blockchain process, Role-based access control, Data request, Verification process, Data sharing, User revocation.

IMPROVING SEARCH EFFECTIVENESS: META SEARCH ENGINE WITH READER LLM FOR SEARCH RESULT RANKING

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Abstract:

This paper introduces a novel system, the Meta-Suggestion Engine (MSE), designed to enhance query recommendations and improve search experiences for users. Unlike existing methods that rely solely on user search data, MSE utilizes meta-search methodologies to generate query recommendations from multiple search engines. This approach alleviates the limitations faced by smaller search engines, which may struggle to provide diverse and unbiased recommendations based solely on user search data.The MSE system operates as a browser plugin, automatically generating meta-suggestions on any webpage without requiring access to search logs. Through a comparative analysis against popular search engines, MSE demonstrates significant improvements in performance, including a notable increase in normalized discounted cumulative gain (NDCG) and precision metrics.Moreover, the paper highlights the potential for future exploration of user preferences and other factors to further enhance search experiences and deliver more refined query recommendations. By leveraging meta-search techniques and incorporating user feedback, MSE aims to optimize the query optimization process and provide users with more relevant and diverse search results.

Keywords: Search Engine, Query Optimization Process, Meta-Search Engine, Reranking, Query Suggestion, Large Language Models (LLM)

ACCIDENT MONITORING WITH IMMIDIATE INFORMATION TRANSFERRING DEVICE USING IoT

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Abstract:

The rapid growth of the automobile industry has led to an alarming increase in road accidents. In particular, two-wheelers have been identified as the leading cause of road crash deaths over

the past decade. To address this issue, our project proposes a framework utilizing tilt sensors and GPS technology to improve emergency response to accidents.The framework incorporates a tilt sensor to monitor the position of the vehicle, allowing for immediate detection of accidents. Once an accident is detected, the GPS system swiftly identifies the victim's location within 30 seconds, enabling emergency responders to reach the scene accurately and promptly.In cases where the accident is minor or there is no immediate threat to life, the victim can trigger the system to end the emergency alert by pressing a provided switch. Additionally, to ensure that rescue teams receive timely alerts and accurate information about the accident spot, a GSM module is employed to send messages to predefined contacts and ambulances.Upon receiving an emergency alert, the rescue team can utilize GPS to pinpoint their location and take swift action without the need for verbal communication. This streamlined process is facilitated by the integration of tilt sensors with an Arduino Uno and a wireless camera, making the framework highly suitable for real-time implementation.By leveraging tilt sensors, GPS technology, and wireless communication, our framework aims to enhance emergency response to road accidents and ultimately contribute to saving lives on the road.

Keywords: Tilt sensor, GPS technology, Emergency response, Road accidents, GSM module, Arduino Uno, Wireless camera.

CARDIO FUZZ: HEART DISEASE PREDICTION WITH FUZZY LOGIC

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Abstract:

Cardiovascular diseases (CVDs) continue to pose a threat to global health, necessitating the development of sophisticated instruments for comprehensive control. This paper introduces Cardio Fuzz, an advanced framework that combines deep learning with fuzzy logic to transform heart disease prognosis. Fuzzy logic, known for its ability to handle ambiguities and uncertainties in medical data, complements deep learning's pattern extraction capabilities to create a prediction model of unparalleled sophistication and effectiveness. Cardio Fuzz undergoes meticulous preprocessing of datasets and rigorous model parameter optimization, validated against reliable evaluation measures to confirm its predictive power. Notable features include fuzzy rule extraction and attention mechanisms, shedding light on decision-making complexities and enhancing confidence in clinical workflows. Cardio Fuzz provides crucial insights for individualized patient treatment, advancing predictive healthcare analytics with unprecedented accuracy. Its integration of deep learning and fuzzy logic improves prediction

accuracy and offers new insights into cardiovascular risk variables, heralding a paradigm shift in risk assessment and treatment.

Keywords: Cardio Fuzz, Deep Learning, Fuzzy Logic, Prognosis, Prediction Model, Decision-Making, Prediction Accuracy.

IOT BASED SMART VEHICLE PARKING MANAGEMENT SYSTEM

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Abstract:

Parking remains a significant challenge in urban areas, especially densely populated ones. This paper addresses the need for a smart parking system to optimize parking resource utilization and enhance driver convenience. The objective is to design and implement an IoT-based smart car parking system that detects parking slot availability and communicates this information to drivers via a smartphone application. Additionally, the system allows drivers to reserve parking slots in advance and pay for parking fees online.The system aims to reduce the time and effort required for parking, improve traffic flow, and enhance the overall user experience. It comprises three main components: sensors, microcontrollers, and a cloud server. Sensors installed in each parking slot detect vehicle presence, with microcontrollers transmitting data to the cloud server via Wi-Fi or cellular network. The smartphone application accesses cloud data to display nearby parking zones, available slots, and reservation options. Users can also pay parking fees through the app using digital wallets or credit cards. Testing in a simulated parking lot with 20 slots demonstrates system feasibility.The IoT-based smart car parking system offers an effective solution to urban parking challenges, leveraging IoT to monitor and manage parking resources intelligently. Benefits include time and cost savings for drivers and operators, as well as environmental sustainability through reduced emissions and fuel consumption. Further enhancements may include dynamic pricing, security features, and analytics capabilities.

Keywords: IoT, Smart Parking, Parking Management, Sensors, Real-time Data, Cloud Computing, Mobile Applications, RFID, Automation, Occupancy Detection, Wireless Communication, Data Analytics, Smart Cities, User Interface, Geolocation.

REWARD BASED SMART DOMESTIC WASTE DISPOSAL AND SEGREGATION SYSTEM

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Abstract:

Improper waste disposal in residential areas is a critical concern, posing significant environmental and hygiene risks while impeding recycling efforts. Manual segregation of waste is both unhygienic and inefficient, exacerbating the problem. Moreover, public dumping of waste further harms the environment and local communities. In this paper, we propose an innovative solution to address these challenges through the adoption of a reward-based smart domestic waste disposal and segregation system .Our system leverages sensors and actuators to monitor proper waste segregation and disposal in household dustbins without human involvement. Central to our approach is the use of a Convolutional Neural Network (CNN) based image processing algorithm to identify recyclable and non-recyclable waste, thereby tackling the issue of mixed-improper wastes. Through our system, households are incentive to segregate waste correctly, earning rewards based on the weight of recyclable material disposed of properly. These rewards are generated and allocated in the form of receipts, which can be scanned via QR code and uploaded to a website for claiming rewards from the government. Importantly, the transfer of rewards is secured using Blockchain technology, ensuring transparency and integrity .Each instance of correct waste disposal earns credits, fostering a culture of responsible waste management and promoting cleaner, healthier residential neighborhoods .Our comprehensive system represents a significant step towards mitigating pollution and fostering sustainable waste management practices in communities.

Keywords: Sensor technology, Convolutional Neural Network (CNN), Blockchain Technology, IoT (Internet of Things) devices.

ORGANIC PESTICIDES: PROTECTING HUMAN HEALTH AND ENVIRONMENT USING DEEP LEARNING TECHNIQUES

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Abstract:

Organic pesticides represent a promising avenue for safeguarding both human health and the environment, offering alternatives to conventional chemical pesticides known for their detrimental effects. Leveraging deep learning techniques in the context of organic pesticide development and application presents a novel approach to enhance efficacy and minimize unintended consequences. This paper explores the integration of deep learning algorithms with environmental and biological data to predict pest outbreaks, optimize pesticide formulations, and mitigate risks associated with their usage. By harnessing the power of deep learning, researchers can analyze vast datasets to identify patterns, optimize pesticide application strategies, and tailor solutions that are both effective and environmentally sustainable. This interdisciplinary approach holds great potential in fostering a more resilient agricultural system, promoting human well-being, and preserving ecological balance. Organic pesticides offer a promising avenue for safeguarding human health and the environment, providing alternatives to conventional chemical pesticides with known harmful effects. Integrating deep learning techniques into the development and application of organic pesticides presents a novel approach to enhance efficacy while minimizing unintended consequences. By leveraging deep learning algorithms with environmental and biological data, researchers can predict pest outbreaks, optimize pesticide formulations, and mitigate risks associated with their use. This interdisciplinary approach enables the analysis of vast datasets to identify patterns, optimize application strategies, and tailor solutions that are effective and environmentally sustainable. Ultimately, this innovative approach holds significant potential in fostering a more resilient agricultural system, promoting human well-being, and preserving ecological balance.

Keywords: Organic Pesticides, Deep Learning Techniques, Environmental sustainability, Agricultural System.

CONTROL SYSTEM APPLICATION USING HAND GESTURES

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Abstract:

Control system application using hand gestures involves utilizing computer vision techniques to interpret and respond to hand movements captured through a inbuilt camera. This innovative system aims to provide control system application offers a versatile and intuitive means of user

interaction through hand gesture recognition in computer vision assistive devices through intuitive and natural gestures without any additional hardware. The system is built on a deep learning framework, using convolutional neural networks (CNNs) and OpenCV, to analyze and interpret the hand movements by tracking the movement and key points of the hand, it can extract vital information and commands from users. These commands may include live-video input, navigation, or the control of various applications. OpenCV to capture video frames, preprocess them as needed, and then pass them to a Media-pipe(CNN) hand tracking model to detect and track hand landmarks. The adaptability and user-friendly interface of the hand gesture control system utilizing CNN and OpenCV are two of its main advantages. Users can interact with digital devices using natural hand gestures with the hand gesture control system, in contrast to traditional input methods like keyboards or touchscreens, which may require physical engagement or complex commands. This friendly interface improves user experiences, encourages accessibility, and streamlines interactions especially in situations when gesture- or hands-free control is required or preferred. Furthermore, the system provides reliable and accurate gesture detection capabilities, allowing for precise control and responsiveness in real-time applications, by utilizing deep learning algorithms and computer vision techniques.

Keywords: Hand Gesture Recognition, OpenCV, Media-pipe, Convolutional Neural Network

HARVEST HUB : DATA-DRIVEN AGRITECH COMPANION

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Abstract:

Harvest Hub is an innovative mobile application designed to revolutionize agriculture through data-driven insights and personalized recommendations. Serving as a comprehensive Agritech Companion for farmers, Harvest Hub utilizes real-time data analysis to offer crop recommendations, pesticide and fertilizer suggestions, yield predictions, and access to the latest trending agriculture news. Leveraging information on soil characteristics, nutrition value, climatic conditions, and crop management practices, the app empowers farmers with actionable insights to optimize their farming practices and maximize crop yields. At the core of Harvest Hub lies the implementation of the random forest algorithm, a powerful machine learning technique. This algorithm processes large datasets with efficiency and accuracy, enabling the app to generate precise recommendations and predictions based on the diverse array of factors influencing crop cultivation. By harnessing the capabilities of the random forest algorithm, Harvest Hub provides farmers with tailored guidance that aligns with their specific farming

conditions and objectives. Through its intuitive interface and user-friendly features, Harvest Hub facilitates seamless interaction between farmers and agricultural data. Farmers can input information about their farm's soil characteristics, nutrition value, and climatic conditions, allowing the app to generate personalized recommendations for crop selection, pesticide usage, and fertilizer application. Additionally, Harvest Hub provides real-time updates on trending agriculture news, ensuring that farmers stay informed about the latest developments and market trends. In summary, Harvest Hub represents a groundbreaking advancement in agriculture technology, offering farmers a powerful tool to enhance productivity, sustainability, and profitability. By harnessing the power of data-driven insights and machine learning algorithms, Harvest Hub empowers farmers to make informed decisions and optimize their farming practices in an ever-evolving agricultural landscape.

Keywords: Agritech Companion, Agriculture news, Nutrition value, Soil characteristics, Fertilizer suggestion, Random Forest.

MIND MATE AI: BRIDGING GAPS IN MENTAL HEALTH THROUGH AI

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Abstract:

Globally, there is increasing concern about mental health issues; nonetheless, many people do not have access to sufficient resources and help. Large language model (LLM)-driven chatbots offer a promising way to increase the scalability and accessibility of mental health services. The goal of this project is to create a conversational AI system that can offer advice, coping mechanisms, and emotional support to people dealing with mental health issues. The chatbot will use LLMs' sophisticated natural language processing skills to have sympathetic and relevant conversations. It will be taught using a wide range of mental health data, such as peer support discussions, self-help books, and counseling transcripts. It will be made to support users without passing judgment, validate their feelings, and, when necessary, point them in the direction of healthy coping strategies and help-seeking behaviors. Throughout the development process, ethical factors including safety, privacy, and transparency will be given top priority. Through user tests, the chatbot's efficacy in enhancing mental health, offering emotional support, and promoting help-seeking behaviors will be investigated. If this study is successful, it may open the door to more accessible and scalable mental health care, which would enhance conventional therapeutic approaches and lower barriers to care.

Keyword: Conversational AI, Large Language Model (LLM), Natural Language Processing (NLP), Accessible Care.

HERBGUARD ML-ASSISTED MEDICINAL PLANTS IDENTIFICATION FOR SUPPLY CHAIN INTEGRITY

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Abstract:

This project aims to address the issue of authenticity and integrity within the medicinal plant supply chain by developing an image processing software utilizing machine learning techniques. The proposed solution involves the implementation of Convolutional Neural Networks (CNNs) for plant identification, accompanied by image preprocessing methods to enhance model robustness. Integration of image processing techniques such as edge detection and colour analysis further improve accuracy. The project is structured into modules covering data preparation, model development, system integration, database management, security, and supply chain integration. The final product will be a mobile application built using Kotlin, seamlessly merging the developed model for efficient medicinal plant management and supply chain monitoring.

Keywords: Image processing, Machine learning, Convolutional Neural Networks (CNNs), Supply chain integrity, Kotlin, Transfer Learning, System integration, Database management.

PREDICTIVE MAINTENANCE FOR INDUSTRIAL MACHINERY USING MACHINE LEARNING

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Abstract:

Our project aims to develop a predictive maintenance system leveraging machine learning techniques for industrial machinery. The production of income and productivity are severely hampered by unplanned downtime in industrial machines. Because proactive detection is typically lacking in current maintenance techniques, production delays and expensive repairs result. As a result, the goal of our research is to address these issues by creating a predictive maintenance system using machine learning methods. Detecting anomalies and possible malfunctions in real time, the suggested system analyses real-time data streams from industrial machines. Our approach eliminates accidental downtime and allows proactive maintenance scheduling by leveraging the Random Forest algorithm, which is good at managing a variety of data kinds and yielding useful insights. Users may efficiently track maintenance tasks, identify anomalies and receive timely notifications, and monitor machinery performance through an intuitive web and mobile application interface. Our project's main goals are to minimize operational disruptions to ensure continuous production, optimize maintenance procedures, and identify machinery problems early. Our technology strives to guarantee cost-effective operations for machine owners and service providers by facilitating prompt maintenance interventions and decreasing downtime. By improving predictive maintenance capabilities in industrial settings, this research helps to create an operational environment that is more efficient and sustainable.

Keyword: Predictive maintenance, Machine learning, Industrial machinery, Downtime reduction, Real-time monitoring, Proactive maintenance

A DIGITAL PLATFORM FOR EMPOWERING RURAL ARTISANS, FOSTERING ECONOMIC SUSTAINABILITY AND PRESERVING CULTURAL HERITAGE

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Abstract:

The preservation of traditional craftsmanship and cultural heritage is crucial for the sustenance of rural communities and the enrichment of global cultural diversity. In response to the challenges faced by rural artisans and pottery makers in accessing markets and sustaining their livelihoods, this project proposes the development of a unique platform. This platform serves as an online marketplace dedicated to marketing traditional products while simultaneously supporting rural artisans, fostering economic sustainability, and preserving cultural heritage. Through the implementation of innovative features such as artisan profiles, product customization options,

and educational content, the platform aims to connect artisans directly with a global audience. By providing training, resources, and fair trade practices, rural artisans are empowered to enhance their skills, improve product quality, and increase their income. Additionally, the platform facilitates community engagement and storytelling initiatives to raise awareness about the cultural significance of traditional craftsmanship. This project embodies a collaborative effort to bridge the gap between rural artisans and consumers, promoting the appreciation and preservation of cultural heritage while contributing to the economic development of rural communities. Through its multifaceted approach, the platform endeavors to create sustainable opportunities for artisans, enriching lives, and preserving cultural traditions for generations to come.

Keywords: Rural Artisans, Pottery makers, Artisan empowerment, Economic Sustainability

GOVERNMENT SCHEME CHATBOT USING NLP AND WEB SCRAPING

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Abstract:

In a period of digitalization and automation, the accessibility of government schemes and benefits plays a crucial role in ensuring citizens welfare and empowerment. This project aims to develop a user-friendly chatbot interface designed to provide comprehensive information about government schemes, eligibility criteria, and engagement process. The main goal of the Government Scheme chat bot is to solve public confusion about various government- programs by making important information easily accessible to all citizens. For accurate and up-to-date data on Schemes users may rely on SchemeBot, providing schemes and decision-making. The chatbot uses natural language processing (NLP) to understand user queries and provide relevant information that is obtained from multiple government websites through web scraping. Through a user-friendly interface, citizens can easily explore a variety of scenarios and obtain information that is specifically adapted to their needs and circumstances.

Keywords: Natural Language Processing(NLP) , Web Scraping , ChatBot , Schemes

EPILEPTIC SEIZURE DETECTION AND HOSPITAL WAGON ALERT SYSTEM

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Abstract:

Recurrent seizures are the hallmark of epilepsy, a neurological illness that affects millions of people worldwide. Improving patient outcomes and quality of life requires prompt seizure detection and treatment. The diagnosis and prediction of epileptic seizures has been made easier throughout time by the development of numerous techniques and tools, from sophisticated machine learning algorithms to conventional electroencephalography (EEG). This work offers a thorough examination and critique of the methods used today to identify epileptic seizures. Numerous methodologies are included in the paper, such as machine learning models, feature extraction algorithms, and signal processing approaches. Conventional EEG-based techniques analyze brain wave patterns to pinpoint seizure occurrences.

Keywords: Machine Learning, Data Analytics, Fraud Detection, Logistic Regression, Random Forest

QUOTATION GENERATOR FOR TRAVEL MANAGEMENT SYSTEM

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Abstract:

The travel industry faces challenges for both travel agents and travelers. Creating customized itineraries often takes travel agents days, communication with vendors can be cumbersome and limited networks restrict their options. Our System tackles these issues by creating a platform connecting travel agents and vendors. This platform aims to streamline itinerary generation through AI-powered pre-built templates and AI-powered recommendations, allowing travel agents to generate personalized quotation quickly. Additionally, it facilitates seamless communication between travel agents and vendors, expanding vendor networks and offering diverse options to cater to various client preferences. Travelers benefit from a user-friendly platform offering local recommendations and simplifying hotel and car rental bookings, creating

a smoother and more enjoyable travel experience. This project strives to develop a functional prototype of "Quotation Generator For Travel Agent" with sample data, master setup, and functionalities for customizable Quotations, notifications, and separate logins and dashboards for vendors and travel agents. Furthermore, an integrated recommendation system and ranking-based algorithm will further enhance the user experience.

Keywords: AI Powered Recommendation System, Ranking algorithm, Quotation Generator

SIGNLINK - FOR HEARING IMPARED PERSON SPEECH TO ISL

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Abstract:

Deaf and mute populations across India and the subcontinent primarily communicate using Indian Sign Language (ISL), which utilizes hand gestures, facial expressions, and body positions to convey messages and emotions. ISL is a complete natural language with its own grammar and lexicon. To bridge the communication gap between the hearing and speech-impaired community and the general population, translation systems are essential. We propose an end-to-end human interface framework capable of recognizing and interpreting spoken language and then playing corresponding ISL gestures to facilitate comfortable real-time conversations between the disabled community and others. We utilized the Microsoft Xbox Kinect 360's depth sensing and motion capture capabilities to capture motion data for various ISL gestures. Subsequently, Unity3D was employed to set up animations, and the system was integrated into an Android app.

Keywords: Indian Sign Language, Sign language translation, 3D Modeling, Motion capture

SEMANTIC QA AND VIDEO SUMMARIZATION

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Abstract:

This research suggests creating a sophisticated semantic chatbot that can summarize videos and answer questions (QA). Through the use of cutting-edge natural language processing (NLP)

methods and semantic comprehension, the system seeks to address the shortcomings of current chatbots by offering precise and contextually relevant responses to user inquiries. To help users quickly understand the main points without having to view the entire video, the system will also include algorithms for summarizing textual content that has been taken from videos. Developing a user-friendly interface to facilitate smooth interaction with the project will entail creating and implementing complex algorithms for question answering, video summarizing, and semantic comprehension. The system's functionality, accuracy, and usability will be evaluated through extensive testing and review, with an emphasis on offering an effective

Keywords: question &answering (QA), Artifical Neural Networks (ANN), Natural Language Processing (NLP).

ECO-BLOOM : INDOOR PLANT WELLNESS

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Abstract:

Our project aims to develop a comprehensive system designed to elevate the health and vitality of indoor plants while promoting sustainability and environmental consciousness. Our approach combines cutting-edge technology with time-tested methods to create an optimal environment for plant growth and well-being. Through the use of eco-friendly fertilizers, efficient watering techniques, and natural pest control methods, we ensure that plants receive the nutrients and care they need to thrive without harming the environment. By integrating sustainable practices into every aspect of our system, we minimize waste and reduce our ecological footprint. n addition to promoting plant health, Eco-Bloom Indoor Plant Wellness also contributes to improved indoor air quality and overall well-being. Indoor plants have been shown to remove toxins from the air and create a more pleasant and inviting living or working environment. At Eco-Bloom, we are committed to empowering individuals to cultivate beautiful and healthy indoor ecosystems while making a positive impact on the planet. By providing education, resources, and support, we help our customers create sustainable indoor spaces that promote both physical and mental health. Join us in our mission to green indoor spaces and nurture a healthier planet for generations to come.

Keyword: Machine learning, sustainable practices, Ecological footprint, Education and resources, Green indoor spaces, Physical and mental health Sustainable living.

A BLOCKCHAIN BASED CERTIFICATE VERIFICATION AND ISSUANCE

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Abstract:

In the contemporary era, ensuring the authenticity and integrity of certificates issued by educational institutions, organizations, and certification authorities is crucial. Traditional certificate verification processes often involve manual efforts, lack transparency, and are susceptible to fraud. To address these challenges, this project proposes a Blockchain-based Certificate Verification DApp (Decentralized App) built on the Ethereum blockchain. Leveraging smart contracts, this DApp automates the certificate issuance process, ensuring integrity through the immutability property of blockchain transactions. Additionally, certificates are stored on the InterPlanetary File System (IPFS) for easy accessibility. By comparing the existing certificate issuance and verification processes with blockchain-based solutions, this project aims to demonstrate the enhanced security, transparency, and efficiency offered by decentralized systems, paving the way for a more reliable and accessible certification ecosystem.

Keywords: Blockchain, DAPP, Ethereum, Smart Contracts

OPTIMIZED PRIVACY AND LOSSLESS SECURE COMMUNICATION OF SENSOR-BASED URBAN CITIES

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Abstract:

Urban sensing systems represent a transformative force in modern city management, facilitating rapid information exchange and enhancing connectivity across diverse urban landscapes. Leveraging cutting-edge technologies such as the Internet of Things (IoT) and smart city infrastructure, these systems enable real-time monitoring and analysis of crucial urban data streams.In response to the growing demand for secure and efficient urban sensing networks, we introduce a novel lossless data-hiding scheme. This innovative approach, rooted in histogram transformation and dynamic quadtree N-bit localization, ensures both computational efficiency and robust data security. By prioritizing the privacy and integrity of information exchanged

within urban environments, our scheme sets a new standard for secure data management.Through comprehensive evaluation and comparative analysis, our proposed method demonstrates superior performance in terms of security, efficiency, and visual quality. With an impressive structural similarity index (SSIM) and high embedding capacity ratios, our scheme offers a reliable solution for addressing the evolving challenges of urban data management.As urban sensing systems continue to evolve, it is imperative to prioritize the development of secure and efficient data management solutions. By embracing innovative technologies and fostering collaboration between stakeholders, we can pave the way for safer, smarter, and more sustainable urban environments. Together, we can harness the power of urban sensing to build resilient cities that thrive in the digital age.

Keywords: Lossless information hiding, secure communication, security and privacy, smart cities, urban sensing systems.

AI -CHATBOT FOR MENTAL HEALTHCARE TREATMENT

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Abstract:

This paper explores the mental health challenges faced by individuals and offers a tailored solution through a medical conversational agent to address their mental health needs. This innovative solution harnesses the capabilities of artificial intelligence and natural language understanding techniques. The conversational agent offers a user-friendly interface for individuals to engage with and receive support on a wide range of mental health topics. The methodology employed encompasses data gathering from credible sources, preprocessing of the data, selection of appropriate platforms, designing the architecture of the conversational agent, integrating deep learning and natural language processing algorithms, incorporating personalized features, and building a comprehensive knowledge repository. Testing and evaluation involve assessments of usability, functionality, accuracy, and user input. Deployment and ongoing maintenance focus on continual enhancement, monitoring, logging, and user assistance. This medical conversational agent shows potential for enhancing accessibility and efficacy in mental health support, thereby contributing to individuals' well-being and offering valuable resources in the mental health domain

Keywords: Conversational agent, artificial intelligence, natural language understanding, mental health and well-being

CHAT-MINE A REAL-TIME WEB SCRAPING CHATBOT FOR INSTANT INFORMATION RETRIEVAL

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Abstract:

"ChatMine" represents a paradigm shift in real-time information retrieval from web pages through its cutting-edge web scraping chatbot design. Harnessing a fusion of advanced web scraping techniques and state-of-the-art natural language processing (NLP) algorithms, ChatMine adeptly extracts pertinent data from user-supplied URLs and seamlessly engages in conversational interactions to address user queries. Crafted with precision, the frontend interface, constructed using HTML, CSS, and JavaScript, offers users an intuitive platform for interaction, facilitating seamless navigation. Meanwhile, the backend, powered by Python and Flask, efficiently manages web scraping, NLP processing, and chatbot functionality. The integration of powerful libraries such as Beautiful Soup for web scraping and NLTK for NLP ensures the precise and timely delivery of information, substantially enhancing user browsing experience and productivity. What sets ChatMine apart is its unique ability to interpret user queries and extract data from dynamic web pages, offering unparalleled convenience and efficiency in information retrieval. Moreover, ChatMine is committed to continuous enhancement through iterative refinement and the integration of user feedback mechanisms. This dedication ensures the system's reliability and effectiveness in web data extraction and analysis. With a focus on accuracy, speed, and user satisfaction, ChatMine aims to redefine information retrieval, providing users with a dependable tool to navigate the vast internet effortlessly. In summary, ChatMine represents a significant advancement in web scraping and chatbot technology, offering a seamless and efficient means of accessing real-time information. Its integration of cutting-edge techniques and dedication to ongoing improvement make it a valuable asset for users across diverse domains. By providing users with a reliable solution for navigating the vast expanse of the internet, ChatMine empowers individuals and organizations to make informed decisions and stay ahead in an increasingly data-driven world.

Keywords: Natural Language Processing (NLP), Uniform Resource Locator (URL), HTML, CSS, Web Scraping, Natural Language Toolkit (NLTK).

SPEECH EMOTION RECOGNITION USING RNN

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Abstract:

In the domain of data science, the ability to discern and respond to human emotions has long been a sought-after capability. Speech emotion recognition, a facet of affective computing, has emerged as a powerful technology that enables machines to understand and interpret emotional states conveyed through speech. This project delves into the application of Recurrent Neural Networks (RNNs), specifically Long Short-Term Memory (LSTM) networks, to the task of speech emotion recognition. The project begins with the collection and preprocessing of diverse speech datasets, followed by feature extraction to capture acoustic and prosodic cues. The core of the project lies in designing and training LSTM models, which excel in capturing temporal dynamics, to recognize and classify a range of emotions. The ultimate aim is to bridge the gap between machines and human emotions, offering applications that range from empathetic virtual assistants to mental health monitoring tools. This technology carries profound implications across various applications. Virtual assistants, empowered with the ability to understand and respond empathetically to users' emotions, offer a more human-like and emotionally intelligent interaction. In the realm of mental health monitoring, the system can detect signs of emotional distress and provide timely support, potentially revolutionizing the landscape of mental health care. The ultimate goal is to classify emotions with accuracy, providing valuable insights into the emotional states of individuals. This technology carries profound implications across various applications. This abstract encapsulates a journey that leverages the power of artificial intelligence to comprehend and respond to the nuances of human emotions, enhancing human-computer interactions and the potential for emotional support in various domains.

Keywords: Speech Emotion Recognition, Long Short Term Memory (LSTM), Recurrent Neural Networks (RNN)

HUMAN ACTIVITY RECOGNITION USING WEARABLE SENSORS

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Abstract:

Wearable sensor-based Human Activity Recognition (HAR) has attracted a lot of interest lately because of its many uses in human-computer interaction, sports analytics, and healthcare. This study provides an extensive overview of current developments and issues in wearable sensor-based HAR systems. The methods for gathering data, extracting features, and classifying objects in order to identify different human behaviours are the main areas of interest. The significance of HAR systems and their potential to enhance sports performance analysis, facilitate rehabilitation programmes, and improve health monitoring are covered in the first section. After that, a summary of wearable sensor technologies—such as accelerometers, gyroscopes, and inertial measurement units (IMUs)that are frequently employed for data collecting is given. distinct locations for sensors on the human body.

Keywords: Hunan Activity Recognition (HAR), Inertial Measurement unit (IMU)

HERBAL INSIGHT: ENHANCING MEDICAL PLANT ANALYSIS THROUGH IMAGE PROCESSING

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Abstract:

In order to accurately identify plants, our study employs Convolutional Neural Networks (CNN) in conjunction with OpenCV, a breakthrough tool for picture capture. To achieve strong classification accuracy, we utilize larger datasets and sophisticated classification methods. Our software ensures relevance and availability by customizing recommendations based on plant growth regions through the integration of geographical data. To improve user health outcomes, we create disease-specific consumption regimens and a dosage suggestion system. Our program offers a comprehensive solution for medicinal plant identification and consumption recommendations with an emphasis on accuracy and user-centric design.

Keywords: Natural Language Processing (NLP), CNN, OpenCV

AI POWERED SENSOR DEVICE FOR TINNITUS FREQUENCY RELIEF

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Abstract:

Tinnitus, characterized by the perception of sound in the absence of external stimuli, poses significant challenges to millions worldwide. Addressing this, we introduce an AI based sensor device (ASD) designed to mitigate intrusive noises while offering customizable music selection for enhanced therapeutic outcomes. The device integrates advanced noise suppression technology to effectively alleviate tinnitus symptoms, providing users with relief and improved quality of life. Furthermore, ASD seamlessly connects to a dedicated smartphone application, facilitating real-time monitoring of ambient noise levels. This integration empowers users to make informed decisions about their auditory environment, minimizing potential exacerbation of tinnitus symptoms. Additionally, the app enables users to tailor their music preferences, promoting personalized therapy experiences. Through the convergence of cutting-edge technology and user-centric design, ASD represents a significant advancement in tinnitus management, offering a holistic solution to individuals seeking relief from this pervasive condition.

Keywords: Here are the keywords for your abstract: Intrusive noises, Customizable music selection, Therapeutic outcomes, Advance noise suppression technology, Smartphone application, Real-time monitoring, Music preferences, and personalized therapy experiences

ADVANCING URBAN LIGHTING FAULT DETECTION

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Abstract:

Urban lighting infrastructure is essential for creating safe and efficient environments in modern cities. However, the current system faces significant challenges, including delayed detection and maintenance of faulty street lights, leading to inefficiencies and safety hazards. This paper presents an in-depth analysis of these challenges and proposes an automated solution to enhance urban lighting infrastructure. The solution aims to promptly identify street light faults, accurately

track their locations, and optimize maintenance processes for timely repairs, ultimately ensuring a well-lit and secure urban environment.

Keywords: Urban lighting infrastructure, Fault detection, Maintenance, Automated solution, Safety, Efficiency

A MACHINE LEARNING APPROACH FOR FITNESS ANALYSIS USING WEARABLE DEVICES DATA

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Abstract:

Fitness levels may be predicted using machine learning approaches, such as Naïve Bayes and Support Vector Machine (SVM), with an unbalanced dataset being balanced using SMOTE. When utilizing the balanced dataset, Random Forest outperformed other models in terms of fitness level prediction, reaching over 90% accuracy and F1-score. The study's findings point to the possibility of developing an application that forecasts fitness levels, thereby saving time and money by minimizing the need for regular hospital visits for health checks. The study emphasizes the value of using machine learning in healthcare to increase predicted accuracy and efficiency. The study emphasizes the importance of balancing datasets in improving the effectiveness of machine learning models in forecasting fitness levels.

Keywords: Gait Analysis, Machine Learning, Wearable Sensors

COSBY D CUSTOM

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Abstract:

Create an online platform or website where customers can access the design tools. This platform should be user-friendly and interactive, allowing customers to create and visualize their abstract costume designs. Provide a wide range of design elements such as shapes, colours, patterns, and

textures that customers can use to create their abstract designs. These elements should be customizable and combinable to allow for maximum creativity. Develop intuitive design tools that customers can use to manipulate and arrange the design elements. These tools can include drag-and-drop functionality, resizing, rotating, layering, and other features to help customers create their desired abstract costume designs. Offer a library of pre-designed abstract elements and templates to inspire customers and help them get started. This can include abstract motifs, artistic patterns, and unique textures that can be incorporated into the costume design. Provide customization options for specific costume features such as the type of fabric, silhouette, accessories, and embellishments. Once the design is finalized, customers should be able to place an order for their custom-designed costume. Provide clear pricing information, size options, and shipping details to ensure a smooth transaction process. Once an order is received, proceed with manufacturing the costume based on the customer.

Keywords: Visualize, Customizable, Pre-designed, Costume designs, Artistic patterns

AI MULTI AGENT SHOPPING SYSTEM

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Abstract:

The aim of "AI multi agent Shopping system" helps the user to search products and compare the price of the particular product and shows the least price of the product. Nowadays e-shopping systems use the Internet as its primary medium for transactions.In today's digital era, AI technology has paved the way for transformative advancements in various industries, including the realm of shopping. This abstract explores the concept of an AI shopping system, which leverages artificial intelligence algorithms to enhance the shopping experience for both consumers and businesses. The system utilizes machine learning and data analysis techniques to provide personalized product recommendations, streamline inventory management, and offer efficient customer support through chatbots and customers can also add cart by using voice assistant. By harnessing the power of AI, this shopping system aims to revolutionize the way people discover, purchase, and engage with products. This abstract delves into the benefits of AI shopping systems, the challenges they face, and the potential impact they can have on the retail landscape.

Keywords: E-shopping , Intelligence algorithm , Machine Learning and data analysis , power of AI.

THREE LEVEL PASSWORD AUTHENTICATION SYSTEM

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Abstract:

Inspite Of many efforts taken nowadays still security threats can be seen everywhere. In order to be more secure we can think of Three Level Password Authentication System. So this is an idea to implement three levels password authentication for true users. There are varieties of password systems available, many of which have failed due to bot attacks while few have sustained it but to a limit. This paper presentation delves to achieve the highest security in authenticating users. It contains three logins having three different kinds of password system. The password difficulty increases with each level. Users have to input correct password for successful login. Users would be given privilege to set passwords according to their wish. This comprises of text password i.e. pass phrase , image based password and graphical password for the three levels respectively. This way there would be negligible chances of bot or anyone to crack passwords even if they have cracked the first level or second level, it would be impossible to crack the third one. In this paper we present an approach using cued click points(CCP) under Graphical Password that permits to enrich Authentication.

Keywords: Dynamic Password, One factor authentication, Database, One Time Password

NAVIGATING THROUGH DARK WEB FOR PRIVACY PROTECTION

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Abstract:

The Dark Web is often perceived as a haven for anonymity and illicit activities. However, it also serves as a critical tool for privacy protection and free speech. This paper explores the privacy protection techniques employed within the Dark Web, with a particular focus on Tor networks, and discusses the implications of these technologies for users and policymakers. This paper also provides the ideas and techniques for improving performance and security in Tor networks. And provide awareness about privacy protection over internet.

EMPOWERING DEMOCRACY THROUGH SECURE FINGERPRINT VOTING TECHNOLOGY

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Abstract:

The fingerprint voting system, a cutting-edge innovation in electoral technology, presents a novel approach to enhancing the integrity, security, and efficiency of democratic processes. By leveraging biometric authentication, this system ensures the uniqueness and authenticity of each voter, mitigating the risks associated with fraud and impersonation. Through this abstract, we explore the underlying principles, technological components, and potential societal impacts of implementing fingerprint-based voting systems. We examine the advantages they offer in terms of accuracy, accessibility, and transparency, as well as the challenges they may pose in terms of privacy, data security, and implementation costs. Drawing on case studies and empirical evidence, we assess the feasibility and desirability of integrating fingerprint voting systems into contemporary electoral frameworks. Ultimately, this abstract aims to contribute to informed discourse and decision-making surrounding the adoption of innovative technologies in democratic governance

TECH CAREER NAVIGATOR

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Abstract:

Our comprehensive career guidance app addresses the core challenges faced by aspiring individuals seeking employment opportunities. Utilizing advanced AI methodologies and open-source data, our platform smoothly combines tools to make everything easier, the career exploration and job-seeking process. Users can input their desired role, preferred location, and years of experience, enabling the app to customize just for you. Job recommendations are tailored to their preferences. Additionally, the app provides insights into internship, full-time, and part-time positions available, along with recommended certification courses for skill enhancement. Users can also access free certification courses directly within the app to further develop their skill set. Moreover, our app includes a resume maker tool to help users craft professional resumes and an ATS (Applicant Tracking System) testing feature to ensure whether their resumes are optimized for automated screening processes. Our app offers a roadmap to

learn various coding languages, guiding users through structured learning paths to proficiency. With these features seamlessly integrated into one platform, our app empowers users to navigate their career journey with confidence and efficiency, ultimately fostering their professional growth and success.

Keywords: Career Guidance, Location Base Service, Applicant Tracking System

AGRIDIRECTAI: DIRECT SELLING VIA E-COMMERCE APP

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Abstract:

AgridirectAI stands at the forefront of agricultural innovation, offering a transformative ecommerce platform that revolutionizes interactions between farmers and consumers in the agricultural marketplace. By harnessing cutting-edge artificial intelligence (AI) technologies such as machine learning (ML), deep learning (DL), and data analytics, AgridirectAI introduces a paradigm shift in agricultural commerce. Through its array of advanced features, the platform facilitates direct selling of agricultural products while optimizing supply chain logistics and elevating the overall farming experience. At the core of AgridirectAI's functionality lies its intelligent product recommendations, which are tailored to individual user preferences, purchase history, and market trends. By leveraging ML algorithms, the platform offers predictive pricing models and real-time market insights to empower farmers in making informed decisions regarding product pricing and inventory management. Additionally, AgridirectAI enables proactive crop health monitoring and disease detection through DL algorithms and image recognition technology, ensuring early identification of pest infestations and crop abnormalities. Blockchain integration ensures transparent and trustworthy transactions, fostering trust between farmers and consumers by providing immutable records of product provenance and certifications. For farmers, AgridirectAI serves as a valuable resource, offering AI-driven insights and tools to optimize operations, increase productivity, and enhance profitability. Meanwhile, consumers benefit from personalized recommendations, transparent transactions, and access to high-quality, locally sourced agricultural products, enriching their shopping experience and fostering a deeper connection with the agricultural ecosystem. Through its commitment to driving innovation and sustainability, AgridirectAI aims to create a more efficient, transparent, and sustainable marketplace that benefits both farmers and consumers.

Keywords: Supply chain logistics, Personalized Product recommendations, Predictive pricing, Real-time market insights, Crop health monitoring, Disease detection, Pest infestations, Blockchain integration, Artificial intelligence (AI), Machine learning (ML), Deep learning (DL), Data analytics

ONLINE LAW SYSTEM

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Abstract:

Our "Online Law System" offers users the convenience and quality of legal consultancy services right from their home or office. Through our platform, users can get personalized answers to all their legal questions directly from our panel of expert lawyers. Unlike generic responses, our lawyers provide tailored opinions based on each user's specific situation. This system enables users to make informed decisions and saves them time and money by streamlining the communication process and connecting them with relevant lawyers. Users can describe their situation at their own pace and receive a quick and free assessment of their legal rights or liabilities before committing to further legal action.

Keywords: Online Law Chronicle, legal consultancy, personalized legal opinions, lawyer panel, decision making, communication process, time and cost-saving.

REVOLUTIONIZE YOUR APP EXPERIENCES: INTRODUCING DEVINSIGHT, THE ULTIMATE APPLICATION REVIEW PLATFORM FOR DEVELOPERS WORLDWIDE

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Abstract:

Introducing our innovative application designed for developers: a versatile platform combining the functionality of a to-do list with a collaborative space for sharing app and game reviews, project details, and best design practices. Our application facilitates seamless CRUD (Create,

Read, Update, Delete) operations, enabling developers to efficiently manage their tasks, store project specifics, and exchange valuable insights within the community. With intuitive interface design and robust features, our platform empowers developers to organize their workflow effectively, while fostering a supportive environment for knowledge exchange and professional growth.

Keywords: REACT-NATIVE, DJANGO, MYSQL, VSCODE, CRUD

WIRELESS NOTICE BOARD USING ARDUINO AND BLUETOOTH

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Abstract:

The proposed method consists of electronic notice board that is controlled by an android device and displays message on it. Traditionally, there were notice boards where any information or notice had to be stick daily. This becomes tedious and requires daily maintenance. The project the overcomes this problem by introducing an electronic display notice board interfaced to an android device through Bluetooth connectivity. The Bluetooth receives the message from the android device that is sent to an Arduino. Notice board is a primary thing in any institution/organization or public utility places like bus stations, railway stations and parks. But sticking various notices day-to-day is a difficult process. The Notice board is a common display for effective mode of providing information to the people, but this is not easy for updating the messages instantly. This project deals about an advanced Hi-Tech wireless Notice Board. This system is enhanced to display the latest information through an Android application of smart phones or tablet.

Keywords: Bluetooth module, Arduino, Microcontroller, Multi -Terminal, SMS, LCD

ARTIFICIAL INTELLIGENCE IN IRRIGATION SYSTEM

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Abstract:

Agriculture plays major role in this modern era .It also plays a crucial role in economic sector in each country. The demand for food and water is increasing day by day as the population increases. The methods followed by farmers during olden days are not sufficient to fufill the needs of current generation. Some new technologies are introduced to satisfy the requirements. Artificial Intelligence has become the most important technology used in many sectors including education, banking, agriculture etc .In Agriculture sector it plays major role by introducing new method like handling crops, limited supply of water, weed detection, crop quality, monitoring the farm using drones and distributing the crops in fair prices, etc. Likewise using AI we can detect the soil moisture using Tensiometer sensor and we can supply water to the crops using Drip Irrigation or by Sprinkler irrigation by checking the consistent of the soil. And by checking the nutrient contents we can decide what crop we can harvest is in this paper.

Keywords: Agriculture, Artificial Intelligence, Tensiometer sensor, Irrigation.

CROP YIELD PREDICTION USING MACHINE LEARNING

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Abstract:

Accurate prediction of crop yields is essential for effective agricultural management and ensuring food security. In this study, we propose a novel approach to crop yield prediction using Convolutional Neural Networks (CNN) applied to traditional agricultural data sources. By leveraging historical data on weather patterns, soil characteristics, crop types, and management practices, our CNN-based model learns to extract relevant spatial and temporal features associated with crop growth and development. Unlike traditional machine learning approaches, CNNs eliminate the need for handcrafted feature engineering and directly learn meaningful representations from raw input data. Furthermore, the study explores transfer learning techniques to capitalize on pre-trained CNN models, enhancing predictive accuracy and generalization. The performance of the CNN-based models is evaluated using cross-validation techniques and compared against conventional methods. Results demonstrate the effectiveness of CNNs in accurately predicting crop yields across diverse agricultural contexts. The findings have significant implications for precision agriculture, resource allocation, and decision-making processes, contributing to improved agricultural productivity and sustainability.
Keywords: Crop yield prediction, Convolutional Neural Networks (CNN), Agricultural data.

COURSE RECOMMENDATION SYSTEM

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Abstract:

This paper presents a personalized course recommendation system designed to assist students after completing their higher secondary education. With the increasing complexity of educational choices and career paths, students often face challenges in selecting the most suitable courses and programs for their future endeavours. The proposed system aims to alleviate this challenge by leveraging machine learning algorithms and user data to provide personalized course recommendations. The system utilizes a collaborative filtering approach to analyse historical data of students' academic performance, interests, and career aspirations. By identifying patterns and similarities among students, the system generates personalized recommendations based on their unique profiles. Additionally, the system incorporates feedback mechanisms to continuously improve the accuracy and relevance of recommendations over time. The system's effectiveness and performance will be evaluated through user feedback, comparative analysis with traditional advising methods, and metrics such as recommendation accuracy and user satisfaction. Ultimately, the personalized course recommendation system aims to empower students with informed decision-making tools, leading to enhanced educational experiences and better career outcomes.

Keywords: Course Recommendation, Artificial Intelligence (AI), Machine Learning(ML), Collaborative Filtering, Content-Based Filtering.

MARUTHAM

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Abstract:

Marudham is a cutting-edge mobile application designed to revolutionize farming practices by harnessing the power of artificial intelligence (AI) for crop recommendation and timely reminders. Tailored specifically for new farmers, Marudham serves as a trusted digital advisor,

providing personalized guidance and support throughout the agricultural cycle. At the heart of Marudham lies its AI-driven crop recommendation system, which analyzes a multitude of agronomic variables such as soil composition, climate data, historical crop performance, and market trends. Leveraging sophisticated machine learning algorithms, Marudham offers tailored crop suggestions that optimize yield potential and profitability, helping new farmers make informed decisions about what to cultivate.In addition to crop recommendations, Marudham offers a comprehensive suite of features for timely reminders and notifications. From sowing to harvesting, users receive alerts for critical tasks such as irrigation schedules, fertilizer application, pest management, and market updates. These reminders are personalized based on the specific requirements of each crop and the local agricultural calendar, ensuring that farmers stay on track with their farming activities. Furthermore, Marudham fosters a sense of community among farmers by providing a platform for knowledge sharing and collaboration. Through the app, users can connect with fellow farmers, exchange insights, share experiences, and seek advice, creating a supportive ecosystem for learning and growth.With its intuitive interface and powerful AI capabilities, Marudham empowers new farmers to overcome challenges and achieve success in agriculture. By promoting sustainable farming practices and optimizing resource utilization, Marudham contributes to the development of a more resilient and prosperous agricultural sector.

Keywords: Crop recommendation, Timely reminders, Farming, New farmers, Digital advisor, Agronomic variables, Machine learning algorithms, Yield optimization, Profitability, Decision-making, Soil composition, Climate data, Market trends, Notifications, Task management, Community engagement.

GAMIFIED LEARNING WEB APPLICATION FOR PERSONS WITH DISABILITIES

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Abstract:

The Autism Teaching Aid for Object Detection project aims to fill an essential gap in the educational assistance system for kids with autism spectrum disorder (ASD). Disparities in brain development linked to ASD lead to distinct learning issues, especially when it comes to things such object identification. In contrast to children who grow normally, people who have ASD frequently need specific learning strategies, which calls for tailored therapies to support their comprehension and self-sufficiency. The demands of children with ASD may not be sufficiently

met by traditional educational approaches, which emphasizes the need of creative solutions like the project under consideration. The project's goal is to improve children with ASD's ability to recognize objects by using Active Machine Learning (AML) techniques. This will enable them to navigate their surroundings more skilfully .A web application that makes object identification training easier is the project's main component. Because objects are grouped according to their qualities and degrees of difficulty, learning may be organized and customized. Children with ASD can participate with the content in a way that best suits their learning styles through interactive activities and visual AI&DS, which promotes confidence and skill development. Additionally, the project has a brand-new feature in which letter cards are displayed with their matching sign language equivalents. This two-pronged strategy teaches kids sign language and other alternate forms of communication in addition to helping them recognize objects. The initiative fosters inclusion and meets the unique needs of children with ASD by embracing a variety of learning modes.

Keywords: Sensor technology, Convolutional Neural Network (CNN), Blockchain Technology ,IoT (Internet of Things) devices.

DESIGN OF CYBER-SECURITY ENABLED SMART

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Abstract:

This paper comprehensively explores the cyber-security challenges facing smart microgrids, emphasizing the intricate relationship between their physical processes and cyber systems. Highlighting the heightened vulnerability of power electronics-intensive microgrids to cyberattacks, especially when operating islanded, the paper investigates the potential impact on data confidentiality, integrity, and availability. A particular focus is placed on false data injection (FDI) attacks targeting protection systems, voltage and frequency control, and state estimation, with a review of their technical and economic effects. Defensive tactics, including detection/mitigation and protection strategies, are discussed, along with implementation examples and global cyber-security projects. Additionally, critical cyber-security standards and future trends in smart microgrid security are outlined.

CONTROLLER FOR GRID CONNECTED MICROGRID

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Abstract:

This paper presents the scope and need of online markets and e-commerce platforms are on the rise and many people buy products from these platforms. The amounts of feedbacks for products as a result are also present in detail for users to analyze the product they are buying. This can work against the users as well because users can sometime bombard the review section with extreme opinion comments which can work in favor or against the product. Thus we need to take care of this because this can be done either by the merchant to increase the value of his product or the user to degrade the ratings of that product. In general the reviews can be classified as genuine or fake review. They tend to use the same review or slightly revised for different products. This duplication can be divided into four categories,

Keywords: Fake product review monitoring support the sql,.net and javascript technologys

DIAGNOSIS OF DIABETES USING CLASSIFICATION ALGORITHMS

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Abstract:

Millions of people worldwide suffer with diabetes mellitus, a chronic metabolic disease that, if left untreated, can have fatal consequences for their health. Effective treatment and the avoidance of problems depend on early diagnosis and prediction. In this work, we suggest a machine learning-based method for predicting diabetes using a dataset that includes a range of clinical, lifestyle, and demographic characteristics. We use a combination of classification algorithms and feature selection strategies to create predictive models that can identify people who are at risk of acquiring diabetes. Our test findings show that the suggested method is effective in predicting diabetes, with excellent sensitivity, specificity, and accuracy. The created model is a useful tool that medical professionals may use to improve tailored treatment plans and proactive interventions, which will ultimately improve patient outcomes and lessen the burden of complications associated with diabetes. A common metabolic disease with major effects on

public health is diabetes mellitus. For prompt intervention and problem avoidance, early identification of those at risk of diabetes is essential. Here, we report a machine learning architecture that predicts diabetes using a large dataset that includes clinical, lifestyle, and demographic data. We build strong prediction models that can reliably identify people who are prone to diabetes through feature engineering, selection, and model optimisation. When compared to conventional risk assessment techniques, our method performs better and achieves high levels of specificity, sensitivity, and accuracy. Our methodology assists in bettering patient outcomes and reducing the cost of diabetes on society by enabling proactive healthcare treatments.

Keywords: Diabetes prediction, Machine learning, Feature selection, Classification algorithms, Early detection, Healthcare intervention, Patient outcomes.

DEVELOPMENT AND EVALUATION OF A HIGH-GAIN MODIFIED SEPIC CONVERTER FOR PHOTOVOLTAIC SYSTEMS

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Abstract:

In the planning of photovoltaic systems interconnected with the grid, the inclusion of a DC-DC converter is often indispensable. This converter plays a vital role in raising the output voltage of the photovoltaic source to align it with the specifications of the grid system. This voltage enhancement is crucial for ensuring efficient energy transfer and the seamless integration of photovoltaic-generated power into the grid infrastructure. Typically, widely used DC-DC converters employ high-gain static converters to boost the output voltage of photovoltaic systems, thereby improving overall conversion efficiency. Among these converters, the SEPIC converter topology is commonly utilized. However, traditional DC-DC converter topologies like SEPIC converters face limitations, achieving a maximum increase of only 5 times the input voltage when the Duty Cycle is set to 0.82. To fulfill the inverter's DC input voltage requirements, the input voltage of these converters needs to surpass 10 times the input. In response to these challenges, this paper suggests the development of modified SEPIC converter topologies tailored for photovoltaic applications.

Keywords:converter, duty cycle, efficiency, grid infrastructure, high-gain static converters, photovoltaic