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(ICRETM - 2024)

APRIL 5th & 6th 2024

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ICRETM 2024

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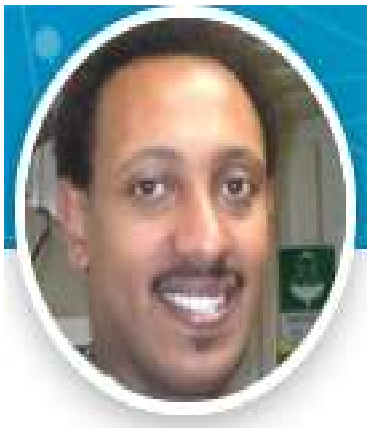
PRINCIPAL's MESSAGE

It gives me immense pleasure to welcome you all to the 4th International Conference on Recent Trends in Engineering Technology and Management (ICRETM 2024), hosted at Suguna College of Engineering, Coimbatore, India.

As the Principal, I use this opportunity to bring together distinguished researchers, faculty members, practicing engineers, technologists, research scholars, and students to share their valuable insights and novel research on the latest trends in engineering, technology, and management. At Suguna College of Engineering, we are committed to providing an education that not only equips you with technical skills but also nurtures your character, critical thinking, and leadership qualities. Our distinguished faculty, state-of-the-art infrastructure, and industry collaborations create an environment that fosters holistic growth. We believe in the power of research, innovation, and experiential learning to prepare you for the challenges and opportunities of the dynamic world. This conference aligns with our vision of promoting academic excellence and encouraging research and innovation. I am confident that this conference will be a great success and will provide a platform for valuable knowledge-sharing and networking opportunities for all participants.

Once again, I extend my warmest welcome to all the participants, and I look forward to meeting you all at the conference.

Best regards,
Dr. R. Maguteeswaran
Principal, Suguna College of Engineering



It's an honour for me to be a part of ICRETM 2024- the 4th International Conference on Recent Trends in Engineering Technology and Management organized by Suguna College of Engineering, Coimbatore, India. The objective of this conference is to share knowledge, innovative ideas, various streams experiences and innovations in research and academia.

It's our privilege to have eminent personalities across the globe to enlighten and provoke about the advances in engineering and medical sciences.

I believe that this conference will provide valuable, useful and informative ideas to participant students, researchers and other experts.

I convey my best wishes for success of event.

DR. ANTENEH MESFIN YENENEH
ASSOCIATE PROFESSOR
DEPARTMENT OF CHEMICAL ENGINEERING
INTERNATIONAL MARITIME COLLEGE OMAN
OMAN

Greetings to all esteemed faculty, researchers, industry leaders, and students attending the 4th International Conference on Recent Trends in Engineering Technology and Management (ICRETM 2024) at Suguna College of Engineering, Coimbatore, India. I am honored to be delivering the keynote address at this prestigious event on April 5th & 6th. This conference presents a remarkable platform to explore the latest advancements and trends shaping the landscape of engineering, technology, and management. This conference fosters a dynamic environment where all researchers can engage in thought-provoking discussions, share ground-breaking research findings, and forge meaningful collaborations. These interactions will undoubtedly spark innovation and propel us towards a future brimming with possibilities.

Whether the delegates are seasoned professional or a budding researcher, I believe that ICRETM 2024 will offer an unique opportunity to learn from each other, share everyone's perspectives, and build lasting connections. I am eager to connect with all of the delegates and witness the innovative ideas that emerge from this vibrant gathering. Together, let us push the boundaries of knowledge and create a future where engineering, technology, and management work in harmony for the betterment of our world.

I look forward to a stimulating and productive conference!!

DR.ANTONY V.SAMROT
DIRECTOR (RESEARCH, INNOVATION AND POSTGRADUATE STUDIES)
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391	ICRETM240984	AUTOMATING DATA PREPROCESSING FOR RELIABLE PREDICTIVE MODELING
392	ICRETM240366	REAL TIME POSE ESTIMATION FOR PHYSIOTHERAPY USING OPENCV AND MEDIAPIPE
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394	ICRETM240903	RECOGNITION MODEL OF CASSAVA PLANT DISEASES BASED ON DEEP LEARNING IN HARSH ENVIRONMENTS
395	ICRETM240870	GOV SCHEMIFY – A CHATBOT FOR GOVERNMENT SCHEMES
396	ICRETM240894	DEEP SEMANTIC AND UNIVERSAL DOMAIN ADAPTATION REMOTE SENSING IMAGE SCENE CLASSIFICATION DOMAIN REPRESENTATION LEARNING
397	ICRETM240995	AN ENHANCED REAL-TIME HUMAN DETECTION KEYFRAME EXTRACTION
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399	ICRETM240798	CLOUD BASED SOCIAL ENGINEERING SECURITY AUDIT WITH MORDEN WEB GUI
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401	ICRETM240979	STATEWISE CRIME PATTERNS WITH ENSEMBLE MACHINE LEARNING AND DATA VISUALIZATION TECHNIQUES FOR PUBLIC SAFETY
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403	ICRETM240977	A DEEP AUTOMATED BONE AGE ASSESSMENT MODEL THROUGH CONVOLUTIONAL NEURAL NETWORK

404	ICRETM240942	CARDIAC ARRHYTHMIA CLASSIFIER USING LABVIEW
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406	ICRETM242001	AUTOMATIC IMAGE SEGMENTATION USING DEEP LEARNING
407	ICRETM242031	UNDERGROUND CABLE FAULT DETECTION USING IOT IN SINGLE PHASE
408	ICRETM240942A	PEST DETECTION SYSTEM USING DEEP LEARNING
409	ICRETM242229	CROP DETECTION USING REMOTE SENSING IMAGES
410	ICRETM240989	CLASSIFICATION OF PUBLIC FEEDBACK SYSTEM TO KNOW PROBLEMS FACED BY THE COMMON GROUP OF PEOPLE
411	ICRETM240958	MACHINE LEARNING BASED FAULT PREDICTION IN SINGLE PHASE INDUCTION MOTOR
412	ICRETM240863	AN ANALYTICAL STUDY OF BIRDS IDENTIFICATION THROUGH THE CLASSIFICATION TECHNIQUES BASED ON BIRDS CALL AND SONG
413	ICRETM240652	ENHANCED ELECTRIC VEHICLE POWER MANAGEMENT SYSTEM WITH SUPER CAPACITOR
414	ICRETM240960	CYSTIC FIBROSIS PREDICTION USING DEEP LEARNING
415	ICRETM240967	BONE TUMOR CLASSIFICATION USING GOOGLENET AND CAPSULE NEURAL NETWORK
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417	ICRETM240956	PRECISION SALES FORECASTING USING LGBM REGRESSOR
418	ICRETM240945	PULSED ELECTRIC FIELD FOR ENHANCED NUTRITION IN MILK
419	ICRETM242015	CONTEXTUALIZED LANE DETECTION USING ATTENTION-BASED FULLY CONVOLUTIONAL NETWORK FOR ROBUST VARIENT DRIVING SCENES
420	ICRETM240809A	FOOD TOKEN BLOCKCHAIN APPLICATION
421	ICRETM240978	EMOTION DETECTION USING VGS MODEL IN DEEP LEARNING
422	ICRETM240383	SMART HOME MANAGEMENT AND OPTIMIZED SCHEDULING METHOD FOR PEAK HOUR DEMAND
423	ICRETM241003	A COMPREHENSIVE REVIEW ON BREAST CANCER DETECTION METHODS

201. ELECTRONIC HEALTH RECORD USING BLOCKCHAIN TECHNOLOGY

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Sign Language, primarily used by the deaf and mute community, serves as a means to communicate when speech and hearing are limited. Sign Language Recognition (SLR) involves identifying hand gestures, progressing to text or speech generation. Hand gestures are categorized as static and dynamic, both critical for effective communication. Deep Learning and Computer Vision are harnessed through Deep Neural Network structures, particularly Convolutional Neural Network Architectures, to recognize hand gestures from video datasets. This involves sequential processes of frame extraction, preprocessing, and feature extraction. Successful recognition prompts the generation of corresponding text. This model significantly enhances communication for the hard of hearing and mute. The proposed project elaborates on the implementation of Sign Language Recognition using Deep Learning techniques.

202. SMART ASSISTIVE FOOTWEAR FOR VISUALLY IMPAIRED

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A concept for smart shoes is developed to give blind individuals a smart technological assistance. It can be challenging for blind and visually impaired people to identify impediments when out and about on the street. The Arduino UNO is used in the system to give real-time support, object detection, and artificial vision. Our projectsprimary goal is to help blind people with sound-based support. The only function of the visually challenged devices now on the market is transportation. With the same maneuver that sighted individuals use, the device is intended to assist the visually impaired. Our initiative is primarily concerned with the environment of visually impaired individuals who are unable to walk on their own. Additionally, we are utilizing the piezoelectric principle, which is employed in the shoes power generation. Ultrasonic sensors make up the system, and audio is used to receive feedback. The overall goal of the system is to enable blind people to walk independently by providing them with an inexpensive, effective navigation and obstacle detection aid that gives them a sense of

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artificial surroundings by providing information about the environmental scenario ofstatic and dynamic objects around them.

203. EFFICIENT APPROXIMATE ADDERS WITH MINIMAL ERROR FOR FPGA IMPLEMENTATION

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In this project, A method has been suggested for creating approximate adders that are both efficient and have low errors. The suggested approach maximizes FPGA resources to minimize error in approximate adders. We suggest two approximate adders for FPGAs with our approach: low error and space-saving approximate adder (LEADx), and efficient in both area and power approximate adder (APEX). Both approximate adders consist of a precise section and an approximate section. The components of these adders are structured systematically to reduce the mean square error (MSE) as much as possible. LEADx exhibits a smaller MSE compared to the approximate adders discussed in prior literature. APEX adders have a smaller area and consume less power compared to other approximate adders and traditional adders. In a video encoding application, approximate adders are utilized as a case study. LEADx offered superior quality compared to the other similar adders for video encoding application. Hence, our suggested approximate adders are suitable for effective FPGA realizations of error-tolerant tasks. The proposed method's effectiveness is demonstrated through synthesis and simulation using Xilinx ISE 14.7.

204. DESIGN AND ANALYSIS OF 63 TO 6 COMPRESSOR FOR THE USE OF DIGITAL MULTIPLIERS

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This paper presents the design and analysis of 63 to 6 compressor using 31 to 5 compressor and 15 to 4 compressor as a basic module and it is a comprehensive exploration aimed at optimizing digital multiplication operations. The focus revolves around developing an efficient 63 to 6 compressor circuit, strategically tailored for integration into digital multipliers. The design phase involves meticulous component selection and architecture considerations, balancing precision and complexity. This project not only delves into the intricacies ofcircuit design but also underscores the practical implications of the 63 to 6 compressor within the context of digital multipliers. By fine-tuning parameters and optimizing performance, the project aims to enhance the efficiency of digital multiplication, paving the way for advancements in computational systems and contributing to the ongoing evolution of digital circuitry. This 63 to 6 compressor is designedusing two 31 to 5 compressors, full adders and parallel adder.

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205. A NEW SWARM OPTIMIZATION BASED MOBILITY CLUSTERING APPROACH FOR THE INTERNET OF VEHICLES

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The IoV technology enables real-time communication between cars, drivers, pedestrians, and vehicle management systems and road side management. Vehicle communication on IoV networks is challenging due to high speeds and frequent topology changes. In a large network setting with challenging road conditions and a large number of cars, IoV communication performance has additional challenges. A promising approach to improve the IoV communication performance is through vehicle clustering. Identifying a dependable Cluster Head (CH) and minimizing clusters are tough jobs. In this research, we offer a Swarm optimization-based, mobility-aware SOMACA is a type of clustering algorithm. SOMACA contains two phases: the clustering phase and routing phase. During the clustering phase, we use the Sparrow Search algorithm (SSA) to pick clusters with stable CHs based on mobility of transmission range, and network grid size. Swarm Optimization-based clustering is a technique inspired by the collective behavior of swarms in nature, such as ant colonies, bird flocks, or fish schools. It belongs to the broader category of met heuristic optimization algorithms, which are widely used to solve complex optimization problems by mimicking the behavior of natural systems. In the context of clustering, Swarm Optimization algorithms aim to partition a set of data points into distinct clusters in such a way that the data points within each cluster are similar to each other while being dissimilar to data points in other clusters. This process involves iteratively adjusting the positions of cluster centroids or boundaries based on the evaluation of a fitness function that measures the quality of the clustering solution. The key idea behind Swarm Optimization-based clustering is to model the problem as a collectiveoptimization process, where each solution (or candidate clustering) is represented as an individual agent within a swarm. These agents iteratively explore the solution space by adjusting their positions based on local and global information exchanged with neighboring agents. This collaborative exploration enables the swarm to converge towards promising regions of the solution space, gradually improving the quality of the clustering solution over time. One of the most popular Swarm Optimization algorithms used for clustering is Particle Swarm Optimization (PSO). In PSO, each agent (or particle) represents a potential solution and maintains its own position and velocity in the solution space. The particles adjust their positions based on their own experience (personal best) and the experience of the entire swarm (global best), thereby balancing exploration and exploitation to find optimal clustering solutions. Other Swarm Optimization algorithms, such as Ant Colony Optimization (ACO) and Firefly Algorithm (FA), have also been adapted for clustering tasks. These algorithms leverage different mechanisms inspired by natural systems, such as pheromone trails in ant colonies or the flashing behavior of fireflies, to guide the search process towards better clustering solutions. Swarm Optimization-based clustering offers several advantages, including its ability to handle high-dimensional and nonlinear data, its flexibility in accommodating various types of distance metrics and clustering criteria, and its robustness to local optima. However, like any optimization technique, Swarm Optimization-based clustering also has its limitations and challenges, such as sensitivity to parameter settings, scalability issues with large datasets, and convergence to suboptimal solutions in complex problem domains. Overall, Swarm Optimization-based clustering represents a promising approach for addressing clustering problems in diverse domains, including data mining, machine learning, and computational biology. Its ability to harness the power of collective intelligence and emergent behavior makes it a valuable tool for discovering meaningful patterns and structures in complex datasets

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206. INSTANTANEOUS PRIVATE NETWORK TRANSFER VIA PERSONAL HANDSHAKE USING REDTACTON

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This study introduces an innovative approach to ensuring secure and immediate private network transfers by harnessing RedTacton technology alongside a custom handshake protocol. RedTacton, renowned for its human area networking capabilities, facilitates communication via the electric field generated by the human body. Our research delves into integrating RedTacton with a distinctive handshake authentication mechanism to establish secure communication channels. The proposed system leverages RedTactons functionality to detect and initiate communication between devices through electric field interactions during a personalized handshake. Augmenting this, the handshake protocol adds an extra layer of security by necessitating a predetermined and personalized handshake sequence for successful communication initiation. This guarantees that network transfers are exclusive to authenticated users who have undergone a specific handshake process. Key system attributes encompass instantaneous connection establishment, heightened security via personalized handshakes, and the obviation of traditional authentication methods such as passwords or PINs. The technology's minimal latency and real-time communication traits render it suitable for applications prioritizing speed and privacy, including secure file transfers, confidential data sharing, and seamless device paring.

207. CNN BASED INTELLIGENT AUTOMATED SERICLUTURE MONITORING SYSTEM

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Sericulture is the procedure of growing silkworms to produce silk. India is the globes second-largest silk producer. Sericulture is crucial to Indias socioeconomic, cultural, and political development. Temperature and humidity play crucial roles in the growth of healthy silkworms at all stages, particularly during larval development.We are using Aurdino controllers and sensor units to forecast environmental changes in order to rescue silkworms. It refers non-identical stages, such as black and swallow worms, as well as worm-borne illnesses.

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208. LORAWAN BASED COALMINERS RESCUE AND HEALTH MONITORING SYSTEM USING IOT

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The coal mining industry stands as a bastion of inherent hazards, wherein workers confront a spectrum of risks encompassing health perils, challenging environmental conditions, and geological uncertainties. In response to these formidable challenges, we advocate for the implementation of an Integrated Safety and Monitoring System (ISMS) fortified with LoRaWAN technology and IoT devices.This pioneering ISMS blueprint comprises a sophisticated network of sensors, including but not limited to heart rate monitors, oxygen sensors, gas detectors, temperature sensors, and cutting-edge mineral detection technology. These sensors function in tandem to incessantly monitor both the well-being of workers and the environmental parameters within the mines confines.The essence of the ISMS lies in its real-time data transmission capability, facilitated by LoRaWAN technology, which seamlessly relays crucial information garnered by the sensors to a centralized database. This database serves as the nerve center,furnishing actionable insights to pertinent authorities, enabling them to swiftly respond to emerging safety concerns and effectively mitigate potential hazards. Furthermore, the ISMS incorporates a novel feature in the form of color-coded indicators, designed to evaluate the level of exigency faced by rescue teams. This innovation not only expedites the response time of rescue operations but also ensures their efficacy, thereby safeguarding the lives of miners in distress. By harnessing the transformative potential of IoT and LoRaWAN technology, the ISMS heralds a paradigm shift in safety protocols within coal mining operations. This pioneering system not only bolsters existing safety measures but also fosters a culture of proactive decision-making, thereby engendering a tangible enhancement in overall operational efficiency. In essence, the ISMS stands as a beacon of innovation and progress, heralding a new era of safety and security in the hitherto perilous realm of coal mining.

209. DESIGN DEVELOPMENT AND OPTIMISATION OF IOT BASED CARBON CAPTURE AND STORAGE FOR ENVIRONMENTAL AND AUTOMOTIVE APPLICATIONS

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This paper presents the design and development of an innovative IoT-based Carbon Capture and Utilization (CCU) technology tailored for high-emission areas such as traffic-congested zones and industrial centers. With the escalating concerns over climate change and the pressing need to mitigate

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carbon emissions, the proposed system offers a practical solution for capturing carbon particles directly from the atmosphere. Leveraging Internet of Things (IoT) technology, the system integrates sensors and actuators strategically positioned in targeted emission hotspots to monitor and capture carbon particles efficiently. Through a combination of real-time data analysis and automated control mechanisms, the technology enables the seamless extraction and utilization of captured carbon for various beneficial applications. This abstract outline the conceptual framework, operational principles, and potential impact of the IoT-based CCU technology in combating carbon emissions and fostering sustainable development in urban environments.

210. DESIGN AND IMPLEMENTATION OF OIL AND GAS LEAKAGE DETECTION AND WARNING SYSTEM

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Installation of gas and oil leak detection equipment is one way to prevent mishaps related to gas and oil leaks, which are a serious problem in both residential and industrial buildings. The main goal of this effort is to suggest a prototype that can identify leaks of gas and oil and notify the owners in order to prevent difficulties caused by such leaks. The system uses a flow sensor in addition to a gas sensor and is based on a Raspberry Pi. When the sensor detects a leak of gas or oil, it sends the information to the Raspberry Pi, which takes a judgment and then sends an message warning to the users phone so that appropriate action can be done.

211. MEDIUM POWER LOW-COST INVERTER HARDWARE

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The goal of this project is to meet the rising need for moderately priced, AC-to-DC inverters that can convert direct current (DC) into alternating current (AC). Such technology is required because of the growing use of batteries, off-grid power systems, and renewable energy sources. This project intends to democratize access to reliable power conversion by emphasizing cost-effectiveness, making it appropriate for a wide range of applications, including powering home appliances and small industrial equipment. The design, assembling, and testing of a medium-power inverter that offers both performance and affordability are the main goals of this project. The selection of components must strike a careful balance between price and functionality. The inverters architecture is improved for both power efficiency and waveform quality, making it a desirable option for users with constrained resources. The projects results are substantial. If the project is successful, it will provide an inverter that is completely operational and has been engineered to satisfy the needs of various loads while staying within the allotted budget. The inverter's circuit design, component selection, and building procedure are all covered in detail in the project report. The incorporation of a microprocessor or PWM controller for precise control over output parameters is also discussed. The demand for affordable,

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medium-power inverters that can effectively transform direct current (DC) from diverse sources, including batteries, renewable energy systems, and inexpensive off-grid installations, into high-quality alternating current (AC), is what motivated this project. Power inversion technology that is accessible and inexpensive is essential for enabling more access to dependable electricity as the globe moves toward more sustainable energy options. In conclusion, this project serves as a model for closing the gap between economically viable and usable power conversion. It seeks to equip other DIY enthusiasts and engineers with the knowledge and methodology needed to reproduce comparable inexpensive inverter solutions for their unique applications by documenting the whole project life cycle.

212. HYBRID MODEL FOR LUNG CANCER PREDICTION USING MACHINE LEARNING

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One of the leading causes of death due to cancer in this generation is lung cancer. Lung cancer kills considerably more young individuals than it does elderly people when compared to other malignancies. Previously, Random Forest and Gaussian Naïve Bayes were used to identify lung cancer. The average accuracy of the models lung cancer predictions is lower. We presented an innovative Hybrid Model combining Random Forest with Gaussian Naïve Bayes. To save many lives, the suggested model detects lung cancer early. The dataset of patients affected by lung cancer at various stages was used for experimental purposes. Examining the correctness of the suggested model, Random Forest, and Gaussian Naïve Bayes is the main goal of the experiment. The proposed hybrid model results in 99% accuracy while the accuracy of Gaussian Naïve Bayes is 92% and Random Forest is 98%.

213. EXPLORING THE IMPACT OF JOB INVOLVEMENT AND WORK LIFE BALANCE ON JOB SATISFACTION AMONG SALES PEOPLE, HEALTH CARE REPRESENTATIVES AND R ANDD EXECUTIVES IN KOLKATA, WEST BENGAL

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This research delves into the intricate relationships between Job Involvement (JI), Work-Life Balance (WLB), and Job satisfaction (JS) among sales personnel, healthcare representatives, and R&D executives in Kolkata, West Bengal. By employing statistical techniques such as multiple regressions, correlation and mediation analysis, the study aims to uncover how these factors interplay and influence overall job satisfaction (JS) in these diverse occupational sectors. The findings are anticipated to provide valuable insights for organizations in enhancing employee well- being and job satisfaction within the specified region and sectors.The findings are expected to shed light on how job involvement (JI) and maintaining a healthy work-life balance (WLB) impact the overall job satisfaction (JS) of individuals in these diverse roles within the specified region

214. EMPOWERING DISABLED STUDENTS: ADVANCING SKILL DEVELOPMENT WITH ML AND NAVIGATING

THE WORKFORCE USING NLP

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Tailored Skill Development and Career Navigation Solution for Disabled Students This solution helps to fill the gap in skill development for disabled students and normal students by providing equal access to learning and career advice. Using smart technology like converting text-to-sound and video-to-text, it offers a complete learning package. The platform is mainly designed as user-friendly and keeps up with whats happening in the real-time industry. It uses clever algorithms and natural language to understand and figure out what skills each person has and what jobs might suit them best. Plus, it keeps learning from what users say for better-recommending jobs. In this platform, we offer different types of learning material to explore, and it uses strong frameworks like TensorFlow and secure databases like MySQL. In summary, this solution aims to give both disabled and normal students the tools they need to develop their skills, get personalized career advice, and enjoy learning together.

215. ADVANCEMENTS IN CUBESAT TECHNOLOGY: FOSTERING COLLABORATION, TRAINING, AND COST REDUCTION IN SPACE EXPLORATION

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CubeSat technology has become a tool to encourage engineering collaboration, to train students providing them with a platform for real-world space exploration. These satellites are made for a rather specific purpose than a conventional heavyweight satellite thereby reducing the cost. This provides advancements in the aerospace industry as well. The CubeSat specification accomplishes several high-level goals. The main reason for miniaturizing satellites is to reduce the cost of deployment: they are often suitable for launch in multiples, using the excess capacity of larger launch vehicles. The CubeSat design specifically minimizes risk to the rest of the launch vehicle and payloads.Encapsulation of the launcher– payload interface takes away the amount of work that would previously be required for making a piggyback satellite with its launcher. Unification among payloads and launchers enables quick exchanges of payloads and utilization of launch opportunities on short notice. In essence, the evolution of CubeSat technology represents a paradigm shift in space exploration, democratizing access, fostering collaboration, and driving innovation across the aerospace sector. As these miniature satellites continue to proliferate, their impact on space research and industry is poised to expand exponentially, paving the way for a more accessible and dynamic era of space exploration.

216. BLOCKSAFE BANKING: ENHANCING FINANCIAL SECURITY THROUGH BLOCKCHAIN THREE STAGE VERIFICATION TECHNOLOGY

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The project aims to enhance security and efficiency in financial transactions using blockchain technology. It introduces a three-stage verification process for clients and administrators within the application. Clients register and their information is securely stored in the database. Administrators verify and maintain client information. Upon login, clients can view their bank balance, update details, and initiate transactions, including fund transfers via UPI ID. The UPI ID is validated against the database, and an OTP is sent to the client's email for confirmation. If OTP retrieval via email fails, clients can use their credentials to receive the OTP. Upon confirmation, transactions are processed, updating respective bank balances. Administrators oversee client management. This project revolutionizes security and transactional integrity in banking and exchanges through blockchain technology.

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217. DETECTING FAKE PROFILES ON TWITTER WITH AI AND RANDOM FOREST

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With the proliferation of social media such as Twitter, the increase in fraud has become a significant problem affecting the online trust and integrity of the community. To this end, this study presents a new method to identify misinformation on Twitter using artificial intelligence, specifically using the random forest theorem. Our approach is to distinguish between right and wrong through comprehensive studies and population studies using random forest tools. We experimented using extensive data on a variety of user behaviors and attitudes to inform and evaluate our model. The results showed good performance in terms of precision, recall, and detection of defects; F1 received the highest score [insert feature index]. Through these studies, we provide insight into checking the authenticity and reliability of social media platforms and contribute to the improvement of the detection of fake profiles. This article highlights the importance of using artificial intelligence to combat online misinformation and increase consumer trust in digital media.

218. INCREASING PRODUCTIVITY BY IDENTIFYING DEFECTS IN THE NAIL-PUNCHING HEAD

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The proposed work titled as Increasing Productivity by Identifying Defects in the Nail- Punching Head" aims to enhance manufacturing efficiency by implementing a defect identification system for nail-punching heads in industrial settings. By leveraging advanced sensor technologies and machine

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learning algorithms, the proposed work seeks to detect and categorize defects such as wear, misalignment, or damage in nail-punching heads, which are critical components in various manufacturing processes. This proactive approach will enable timely maintenance interventions, minimizing costly downtimes and maximizing productivity. Through systematic defect detection and analysis, the proposed system endeavors to optimize manufacturing operations, ensuring smooth workflow continuity and fostering sustainable productivity gains in the industrial sector.

219. EMERGENCY MEDICAL SERVICE-(EMS) SIREN VISIONARY

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The EMS-Vehicle Audio and Image-Based Traffic Signal Alteration technology represents a groundbreaking advancement in Emergency Medical Services (EMS) response efficiency. By leveraging audio and image processing capabilities, this innovative system significantly accelerates EMS vehicles arrival times to critical situations. Equipped with specialized sensors for emergency signal detection and real-time traffic recognition cameras, these vehicles effectively communicate with traffic signals to prioritize their passage through busy intersections and roadways.The integration of sensor technologies and advanced image processing algorithms allows EMS vehicles to swiftly navigate through traffic, mitigating delays that could otherwise impede their timely response to emergencies. This not only enhances the overall safety of both patients and emergency responders but also contributes to improved traffic flow within urban environments.One of the key advantages of this technology is its ability to minimize stress for EMS personnel, who can now rely on optimized routes and reduced congestion to reach their destinations promptly

220. PRISONERS REHABILITATION APPLICATION

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The plight of undertrial prisoners often involves a lack of access to legal aid, healthcare services, and rehabilitation programs, leading to prolonged detection and societal marginalization. To address these challenges, this project proposes the development of a web application specifically for undertrial prisoners. The app aims to provide a solution by offering access to legal resources, connecting users with pro-bono lawyers and healthcare providers, and facilitating rehabilitation through educational and vocational training opportunities, as well as mental health support. Additionally, the app provides community support and provides a directory of relevant resources. By leveraging technology to bridge these critical gaps, the proposed web app seeks to empower undertrial prisoners, enhance their access to justice, and facilitate their successful reintegration into society.

221. AN ADVANCED IOT-BASED INFORMATICS AND WEATHER MONITORING STATION USING MQTT

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Nowadays technology is far more advanced by using internet applications. But also, the sharing of information in a fully crowded area is so difficult that we cannot always depend on the Internet. There are some limitations also that we face while using the internet as the information gets delayed or the applications that we are using may crash if more users are used and we may know that more of the people in the country are illiterate or translation problems faced by them, so to rectify the problem the Notice Boards are used in our daily life so that the information is shared to everyone in a detailed manner and anyone can understand through it. Now the purpose of this project is to reduce the efforts of changing the notice messages frequently through the code and we can make it simple by using the IOT Applications, nowadays there are many simplified methods for implementation. Now by using the NodeMcu and the Hive MQTT we transfer the message through the MY MQTT application and send the message we want to publish. And we also added the weather monitoring station through DHT11 and BMP280.

222. REFINING FORKLIFT EFFICIENCY: IMPLEMENTING A PLC SYSTEM FOR TWO-WHEEL FORKLIFT OPERATIONS

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The goal of this project is to improve the productivity and security of material handling operations by proposing a two-wheel forklift control system based on a programmable logic controller (PLC). The traditional forklift design is expanded to a 2-wheel layout that is more manageable and compact, making it ideal for use in tight areas and small aisles. The PLC acts as the forklift's central control unit, coordinating its lifting, moving, and safety features. It works in conjunction with a range of sensors and actuators to guarantee accurate and dependable performance. In order to identify obstacles and avoid accidents, proximity sensors are used, which increases forklift operating safety. The PLC regulates the lifting mechanism of the forklift, enabling precise and customizable load management. The control algorithm is intended to maximize the forklifts route planning, guaranteeing effective maneuvering in constricted areas. A user- friendly control panel facilitates the implementation of the human-machine interface, making it simple for operators to communicate with and keep track of the forklift. Safety interlocks and emergency stop features are combined to meet industry requirements and improve worker safety. The PLC-based control systems installation provides flexibility for future modification and extension. The project also intends to support the continuous development of cutting-edge material handling technologies, increasing the adaptability, safety, and efficiency of forklift operations in a variety of industrial settings. The suggested two-wheel forklift design and PLC-based control are advancements in the field of material handling equipment development.

223. ACCIDENT PREVENTION SMART HELMET AND BIKE TRACKING SYSTEM

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India, which is approaching its peak population and is the most populous country globally, is currently facing a significant increase in two-wheeler accidents. This surge can be primarily attributed to young individuals neglecting safety protocols, such as the use of helmets. In response, a smart headgear powered by the Internet of Things and featuring enhanced security features has been developed. By incorporating a camera module and Raspberry Pi technology, the cycle can be operated exclusively by authorized individuals. Helmet-based ignition guarantees that the bicycle will only commence when the designated user dons the helmet. When unauthorized attempts or incidents occur, the system expeditiously notifies registered contacts via a Telegram bot, furnishing them with real-time GPS coordinates to facilitate an immediate response. Additionally, anti-theft capabilities for locating stolen bicycles and helmets are incorporated into the solution. By integrating cutting-edge technologies, such as facial recognition facilitated by Raspberry Pi, this system effectively promotes road safety in India.

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It mitigates the loss of life and property caused by two-wheeler collisions, as well as prevents unauthorized access and larceny

224. KNOWLEDGE INFERENCE SYSTEM FOR TELEMEDICINE SCENARIO

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Lack of access to healthcare services and information is the issue that our Knowledge Inference System for Telemedicine Scenario is intended to solve, particularly in regions with little or unreachable healthcare resources.Examine the patient information and categorize based on individual characteristics such as age, gender, and place of residence. These data assist governmental and non-governmental organizations in taking the required actions to provide the public with the appropriate health care. In order to recommend diagnoses and treatments and ensure that patients receive the best care possible, it can analyze things like test results and symptoms. It also continuously learns and updates itself with new data, allowing it to continuously adapt and improve to offer the best support possible for patients and healthcare professionals, wherever they may be.

225. OPTIMIZING PERFORMANCE AND LEAN CONSTRUCTION PRACTICES: INSIGHTS FROM A CHENNAI RESIDENTIAL PROJECT

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Construction industry faces numerous problems such as cost overruns and getting rid of construction waste. This case study presents an analysis of the cash flow dynamics and lean construction objectives implemented in a residential project located in Chennai, India. The study focuses on understanding the challenges faced by the project team in managing cash out flow effectively while adhering to lean construction principles aimed at maximizing efficiency and minimizing waste in the construction process. Through a comprehensive examination of the projects financial performance and lean construction strategies, key insights are drawn regarding the impact of lean practices on cash out flow management in the context of residential construction projects. The results provide insightful guidance for stakeholders and project managers looking to maximize construction efficiency by minimizing waste and maximizing financial performance in comparable situations.

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226.TEA LEAF SENTINEL: FORECASTING PLANT DISEASES IN TEA CULTIVATIONS

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The research paper introduces an innovative method that combines IoT (Internet of Things) technology and ML (Machine Learning) to predict diseases in tea plants. It uses smart sensors connected to the internet to gather data on things like temperature, humidity, and soil moisture. Then, special computer algorithms analyze this data to predict when diseases might strike the tea plants. By using IoT and ML together, farmers can get early warnings about potential problems, helping them take action to protect their tea crops. This approach offers a promising way to use technology to improve tea farming practices and minimize crop losses.

227. DESIGN OF CONICAL TRI-BAND HORN ANTENNA WITH HIGH GAIN AND MINIMAL CROSS POLARIZATION

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The horn with a cone shape Antenna is designed to efficient transmission or reception electromagnetic waves, often in the microwave frequency range. The Ansys HFSS software tool is used to design the Conical Tri-band horn antenna in the frequency bands are S, X, and Ku to analyze the performance ofantenna. The design and development of a Conical Tri-Band Horn Antenna optimized for superior performance across the S-band (2 GHz - 4 GHz), X-band (8 GHz - 12 GHz), and Ku-band (12 GHz - 18 GHz). The antenna is strategically to achieve high gain and low cross-polarization, addressing the diverse needs of high-frequency communication and sensing applications. In the S-band, design considerations result in a gain exceeding 13 dBi, ensuring robust signal strength. For the X- band and Ku-band, the antenna is further optimized to achieve exceptional gains exceeding 19 dBi, specifically catering to applications demanding strong signal propagation and long-range communication capabilities.

228. BANKING FRAUD DETECTION USING EFFECTIVE FEATURES AND HYPER TUNED ML MODELS

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With the proliferation of e-commerce and FinTech, online card transactions have surged, leading to a corresponding rise in credit card fraud. This research addresses this challenge by deploying a machine learning (ML) framework for fraud detection using imbalanced datasets from European credit cardholders. To tackle class imbalance, we employ Synthetic Minority over-sampling Technique (SMOTE) for dataset resampling. Various ML algorithms—Support Vector Machine (SVM), Logistic Regression (LR), Random Forest (RF), Extreme Gradient Boosting (XGBoost), Decision Tree (DT), and Extra Tree (ET)—are augmented with Adaptive Boosting (AdaBoost) for enhanced classification. Evaluation metrics include accuracy,recall, precision, Matthews Correlation Coefficient (MCC),and Area Under the Curve (AUC). The frameworks efficacy is further validated on a skewed synthetic credit card fraud dataset. Results demonstrate the positive impact of AdaBoost on method performance, with boosted models outperforming existing approaches. This research contributes to the development of robust mechanisms for safeguarding credit card transactions in the face of evolving fraud threats posed by advancing technologies.

229. BLOCKCHAIN ENABLED DECENTRALIZED TRUST MANAGEMENT AND SECURE VOTING SYSTEM

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Blockchain technology has seen a huge increase in popularity as a result of its ability to provide a transparent and decentralized platform for numerous applications. In order to solve the inadequacies of existing systems, we propose in this paper a decentralized trust management and voting system that makes use of blockchain technology. The system uses the benefits of decentralization, transparency, and immutability of blockchain technology to ensure the security and integrity of voting and trust data. By employing smart contracts, the system automates the verification process and eliminates the need for middlemen, which reduces costs and improves efficiency. Decentralized consensus methods are also

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a part of the system, enabling reliable and impartial voting processes. The use of encryption safeguards the privacy and secrecy of the participants. The suggested system has the potential to revolutionize voting and trust management because it offers a secure and reliable environment.

230. BLOOD GROUP PREDICTION VIA FINGERPRINT MAP ANALYSIS

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Blood group detection is the intricate process of determining and classifying a persons blood type by carefully examining their fingerprint traits using cutting-edge methods. Examining the distinctive ridge patterns seen in fingerprints, which form the basis of establishing unique identities, is essential to this analysis. The proposed system aims to further improve blood group detection accuracy by successfully combining a variety of state-of-the-art feature extraction techniques, like glcm wavelet analysis laws of texture and minutiae gathering through the fusion of these advanced techniques with back propagation neural network-based matching. The current methodology for blood group detection heavily relies on the analysis of fingerprint images and employs a sophisticated blend of diverse techniques to extract features alongside neurological network-based matching to ensure precise identification.

231. ROBUST AI POWERED FITNESS COACH ANALYSES SQUATS FOR PERSONALIZED TRAINING

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In todays world of fitness and health solutions powered by AI technology, our project introduces a fitness coaching system. MediaPipe technology powers this cutting- edge AI instructor. Squats, a core exercise in strength and fitness training, are her specialty. Our AI coach can provide customized advice and feedback to individuals exercising squats by leveraging the precision and accuracy of MediaPipe real-time pose estimation and gesture detection. Our fitness coachs heart is in its capacity to evaluate motions with unrivaled precision. It closely monitors bodily landmarks such as the hips, knees, and ankles to analyze form instantaneously. It analyzes user performance and counts repetitions. Users can use this data-driven strategy to continuously develop their skills while efficiently reaching their fitness goals. Our AI fitness coach is more than just a personal assistant; it is a training companion who enables users to optimize the benefits of squat exercises. Whether you;re new to fitness and want to learn the fundamentals, or an experienced athlete looking for a new challenge, our AI fitness coach powered by MediaPipe is here to help you attain your fitness objectives with precision and expert assistance.

232. FABRICATION OF BLACK BOX

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The current-day Black box are only used in flights and ships for the purpose of storing locations and cause of the accidents which occurs in those vehicles. It helps in finding the reason and cause of the accidents which helps in avoiding the same kind of mistakes which lead to the another accident or problems. In road vehicles which face accidents in day to day life it is hard to find the reasons and cause of the accidents for claiming insurance. In other hand various scams are occurred during the buying and selling of the vehicles So, we had proposed a black box technology for road vehicles. It stores the vehicles service history and kilometers covered by the vehicle, which are stored in the vehicle black box and to the cloud of the authorized person, which cannot be altered by the user .The main purpose of this paper is to develop a prototype of the Vehicle Black Box System VBBS that can be installed into any vehicle all over the world. This prototype can be designed with minimum number of circuits.

233. INTELLIGENT IRRIGATION SYSTEM WITH MULTIPLE NODES AND SMART SENSORS USING IOT FOR AGRICULTURAL FIELD

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The proposed automated irrigation system integrates multiple nodes equipped with NPK sensors, Node MCU, and PIC microcontrollers to monitor soil moisture and nutrition levels in real-time. Utilizing Internet of Things (IoT) technology, the system enables remote monitoring and control using Thingspeak. The NPK sensors provide accurate data on soil nutrient content, allowing for precise and targeted fertilization. To prevent motor dry-run and enhance system efficiency. The system consists of a network of nodes strategicall placed across the agricultural field, each equipped with smart sensors capable of monitoring crucial environmental parameters such as soil moisture, temperature, and humidity. Furthermore, the system offers a user-friendly interface accessible through web or mobile applications, allowing farmers to monitor and control the irrigation process remotely. The intelligent irrigation system presented in this paper not only enhances water efficiency but also contributes to sustainable agriculture practices. By reducing water consumption and minimizing environmental impact, the proposed system aims to improve overall crop yield and foster a more resilient and adaptive

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approach to modern farming. As technology continues to evolve, integrating intelligent solutions in agriculture becomes crucial for ensuring food security and sustainability in the face of changing global conditions

234. A REVIEW OF MACHINE LEARNING ALGORITHMS IN CLOUD MANUFACTURING

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Cloud computing has made major advances in terms of storage, QoS, online service availability, and integration with traditional business models and procedures. When cloud services are incorporated into the current production process, a regular manufacturing company becomes a cloud manufacturing company. Machine Learning extends Cloud Manufacturings capabilities. Many machine learning algorithms give the user the results they want. Learning more about the architecture and analysis of Cloud Manufacturing frameworks, as well as the use of machine learning algorithms in Cloud Manufacturing especially, are the key learning goals. In a cloud context, machine learning techniques such as Support Vector Machines (SVM), Genetic Algorithms, Ant Colony Optimisation techniques, and their variants are used.

235. VISUALIZING AND FORECASTING STOCKS USING MACHINE LEARNING

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The volatile nature of financial markets, particularly in stocks and cryptocurrencies, has led to an increased interest in predictive modelling to assist traders and investors in making informed decisions. This study proposes a novel approach to the price prediction by leveraging deep learning techniques, specifically Transformer Encoder Neural Networks, in conjunction with traditional tech indicators. The methodology involves the extraction and analysis of historical price data, along with incorporation of widely used technical indicators such as Moving Average Convergence Divergence (MACD), Slow Stochastic, and Relative Strength Index (RSI). These indicators provide insights into market trends, momentum, and overbought or oversold conditions. The core of our predictive deep learning model is a Transformer Encoder Neural Network, a powerful architecture known for its ability and accuracy to capture a long-range dependency in sequential data.The model is trained on historical price sequences and corresponding technical indicator values, allowing it to learn complex patterns and relationships

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within the data. The experimental evaluation involves training the model on a diverse dataset spanning various market conditions and timeframes. The performance of the proposed model is compared against traditional time-series forecasting methods and baseline models. Additionally, the impact of different hyperparameters and input features on prediction accuracy is explored. Our findings suggest that the integration of deep learning with technical indicators enhances the predictive capabilities of the model, providing more accurate and robust forecasts. This research contributes to the growing field of financial forecasting by offering a sophisticated yet interpretable framework for traders and investors seeking to navigate the complexities of dynamic markets

236.WIRELESS CHARGING OF E-VEHICLE USING PSO ALGORITHM

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Envisioning a future in which an autonomous electric vehicle (EV) need a way to charge itself autonomously, without the need for human help. In this sense, a fully utomated, efficient, secure, reasonably priced, and stable charging system that presents a profitable business model and swift adoption in the electric transportation networks. Understanding these features is made feasible by wireless charging technology. Modern technology such as Wireless Power Transfer (WPT) provides versatility, safety, ease of use, and the possibility of total automation. The status of the wireless EV market both now and in the future is further highlighted by Transfer of Power Wireless Charging technology. The first section of the paper gives a brief introduction to wireless charging methods, highlighting both their advantages and disadvantages. The study thus makes it easier to compare the many inductive pad, rail, and compensation technologies that have been created up to this point. Additionally, the characteristics of the static and dynamic charging processes are shown. The function and significance of power electronics and several kinds of converters used in various applications are covered. The batteries, as well as the controls over them.

237. SPORTS KIT ORDERING SYSTEM USING KNAPSACK ALGORITHM

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In todays sports management, effective inventory management is essential to ensure timely access to sports equipment while optimizing resource utilization and reducing costs are low. This paper presents a new way to solve this challenge using the knapsack algorithm in sports equipment. Formulating the problem as a knapsack development problem, our system aims to use available resources while meeting constraints such as financial and material availability. We delve into the implementation of the knapsack algorithm in system architecture, explaining the decision-making process and integration with existing data management products. Through the evaluation process, we demonstrate the effectiveness of our approach in improving product management, thereby increasing implementation cost and reducing operating costs. This research offers practical solutions for the optimization of inventory management in sports equipment, contributes to the management of sports, and is important in terms of developing all resources and increasing efficiency.

238. DISSIMILAR WELDING OPTIMIZATION OF AUSTENITIC STAINLESS STEEL

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This study focuses on the welding of 301LN and 316 austenitic stainless-steel plates using the cold metal transfer (CMT). Welding parameters are obtained using literature reviews, and the design of the experiment (DOE) is prepared using the obtained welding parameters. By using this design of experiment (DOE), welding is carried out between 301LN and 316 austenitic stainless-steel plates in cold metal transfer (CMT) as per ASTM standards. After welding, the welded base plates are subjected

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to tensile, hardness, bending, and corrosion testing to find out the best welding parameters. Microstructural and macrostructural examinations are also carried out on the welded base plate to identify the microstructure of the material and weld penetration.

239. MEDICINAL PLANT IDENTIFICATION AND SUPPLY CHAIN

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Identifying medicinal plants using machine learning for authenticity and supply chain integrity faces multifaceted challenges. The diverse morphology of plants, limited availability of comprehensive image datasets, and intraspecific variability pose hurdles in training models to accurately discern between different species. Adulteration and contamination concerns require the inclusion of such scenarios in training data, ensuring the models robustness. Environmental factors, including varying conditions during image capture,necessitate resilience in the model for consistent identification. This project introduces an innovative image processing software leveraging machine learning for the identification of medicinal plants, aiming to enhance authenticity and uphold supply chain integrity in the herbal medicine industry. The software employs advanced machine learning algorithms to analyse botanical images, extracting distinctive features and patterns to accurately identify various medicinal plant species. The integration of this technology serves as a robust tool for herbalists, suppliers, and regulatory bodies, ensuring the authenticity of medicinal plants from cultivation to distribution. By addressing concerns related to adulteration and misidentification, this software contributes to maintaining the quality and efficacy of herbal products. Additionally, it facilitates a transparent and trustworthy supply chain, fostering consumer confidence and supporting sustainable practices within the herbal medicine sector. Through the convergence of image processing and machine learning, this project strives to redefine standards in medicinal plant identification, offering a transformative solution for the industrys authentication challenges.

240. DYNAMIC SIGN LANGUAGE RECOGNITION THROUGH AN ENSEMBLE OF DEEP LEARNING TECHNIQUES

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The recognition and interpretation of American Sign Language (ASL) using computational methods stands as a significant advancement in bridging communication gaps between the Deaf community and the hearing world. This project aims to develop an accurate and By employing deep learning techniques, we propose a model that interprets ASL signs from static images and video sequences, enabling seamless translation of sign language gestures into textual or spoken language.Our methodology encompasses the collection and preprocessing of a comprehensive dataset consisting of ASL signs, including both alphabet and commonly used phrases. Utilizing state-of-the-art CNN architectures, the system undergoes rigorous training and validation phases to ensure high levels of accuracy and efficiency. Robustness and dependability are assessed by gauging the models capacity to correctly identify a broad spectrum of ASL signals in a variety of backgrounds and environments.

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241. ENHANCED LOW-POWER APPROXIMATE BOOTH MULTIPLIERS WITH ERROR COMPENSATION AND COMPRESSION

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An essential technological advantage for the future is energy-efficient computing. The concept of approximation enables the balancing of processing time, energy efficiency, and output accuracy. This introduces an innovative approach to enhancing low-power approximate Booth multipliers through error compensation and compression techniques. The proposed method aims to mitigate errors inherent in approximate multiplication while minimizing power consumption. By incorporating error compensation mechanisms and compression algorithms, the design achieves improved efficiency without sacrificing accuracy. This research contributes to advancing the field of low-power arithmetic circuits by offering a balanced solution that optimizes both power usage and computational precision in multipliers. The recommended technique is implemented using the 90nm CMOS technology, and its effectiveness is carefully evaluated. Using a range of metrics, such as area, power, and delay.

242. IOT BASED INCUBATOR MONITORING AND CONTROLLING SYSTEM FOR JAUNDICE TREATMENT

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Monitoring the well-being of infants is of paramount importance for ensuring their health and safety. This project introduces an affordable and efficient solution leveraging the Internet of Things (IoT) technology. The hardware module comprises an ESP32 microcontroller, serving as the central processing unit, along with a suite of sensors for comprehensive onitoring. These include a body temperature sensor for infant health assessment and ambient temperature, humidity, and gas sensors for environmental monitoring. The ESP32 microcon-troller integrates seamlessly with the inbuilt Wi-Fi module,facilitating real-time data communication and remote monitoring.The system collects data from the sensors and transmits it to a centralized platform for analysis and visualization. By comparing the acquired data with readings from established measuring tools, the system ensures accuracy and reliability. This project aims to address the challenges of affordability and accessibility in infant monitoring systems. By utilizing widely available components and IoT technology, it offers a cost-effective solution without compromising on performance. The integration of various sensors enables comprehensive monitoring, providing insights into both infant health parameters and environmental conditions. The pro-posed solution holds significant potential for widespread adoption in healthcare facilities and homes, empowering caregivers with real-time monitoring capabilities. Furthermore, its compatibility with existing measuring tools enhances its utility and reliability. Overall, this project represents a step forward in leveraging IoT technology to safeguard the well-being of infants, bridging the gap between affordability and effectiveness in infant monitoring solutions.

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243. LORA-BASED LOCALIZATION SYSTEM FOR ENCHANCING LANDSLIDE SAFETY

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Emergency preparedness and public safety in areas vulnerable to landslides depend heavily on the prompt identification of anomalous shifts in the environment. By utilizing the Long Range (LoRa) network and intelligent sensing Internet of Things (IoT) technology, this study presents a novel method of landslide monitoring that gets beyond the drawbacks of conventional landslide monitoring technologies. The present study centers on the creation of an early detection system for landslides, motivated by the recent occurrences of landslides in Kerala, India, which were intensified by extreme rainfall.

244. PREDICTIVE ANALYSIS FOR SALIVARY GLAND TUMOUR USING DEEP LEARNING

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By integrating deep learning models with radiological Salivary gland tumors account for 2% to 6% of all head and neck tumors and are most commonly found in the parotid gland Magnetic resonance imaging (MR) is the most sensitive imaging method for diagnosis. The type of tumor, its location, and its relationship to surrounding structures are important factors in treatment. Therefore, the segmentation of parotid tumors is important. Professionals often use manual segmentation for diagnosis and treatment.However, if we look at the development of todays artificial intelligence-based models, we can see that time-consuming manual classification can be replaced by artificial intelligence-based automatic classification models. Therefore, we use a deep learning-based architecture to classify salivary gland tumors (SGTs).These were then pre-processed by normalizing the grey level of each image. The processed images were imported into a DL model, trained to predict images from the test set, and performance evaluated. Based on training and validation datasets. Classifying salivary gland tumors using CNN- Densenet architecture

245. LUNG CANCER DETECTION SYSTEM AND SURVIVAL RATE PREDICTION USING GRAPH NEURAL NETWORKS

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Lung cancer detection is an important field within respiratory medical diagnosis. Conventional methods often rely on image processing techniques or basic machine learning models, which may not effectively capture the intricate relationships present in the data.In order to address this challenge, A unique approach that involves utilizing Graph Neural Networks (GNNs) is specifically designed and fine-tuned using Inception V3 for the purpose of lung cancer detection. The architecture of the GNN is specifically designed to learn from the graph representations of an embedding that contains information about its neighborhood. This work aims in extracting node features from the input image data, capturing vital data such as pixel intensity, texture, and spatial coordinates. These features are subsequently processed through multiple graph convolution layers, enabling the model to learn and extract higher-level features and patterns from the graph structure. The proposed module aims to work by representing lung images as graphs, where each pixel or region of interest is treated as a node. These nodes are connected to each other based on their spatial adjacency, creating a graph structure that effectively captures the spatial relationships present within the image. CNN model using VGG-16 produced a accuracy of 94.56% while the GNN model produced a accuracy of 96.27%.

246. ADVANCED DEEP LEARNING MODELS FOR STEEL DEFECT DETECTION:YOLOV9,YOLOV8 & RT-DETR

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Steel defect detection is vital in ensuring product quality. This paper examines the application of advanced deep learning techniques on defect detection through Roboflow. This paper uses YOLOv9, a novel and most robust form of YOLO, in addition to other prominent models: YOLOv8 and RT-DETR. We continue an examination of the capabilities and limitations of these models in a steel defect identification context. It also describes its testing and study protocol on a customized defect detection data set. The findings of such a study are supported by our research, highlighting the optimal model while paying particular focus on Accuracy, speed, and identified defect types.

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247. RAIN RATE TO SPECIFIC ATTENUATION ESTIMATION WITH TRMM DATA FOR DIFFERENT REGIONS OF INDIA, A TROPICAL COUNTRY

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Attenuation is an unavoidable physical phenomenon during signal propagation at high frequency and at the time of long-distance travel. Attenuation reduces signal strength thus deteriorates SNR of signal causing degradation of system performance. So, detail study of attenuation has a major role in the system design and application in various fields of satellite be it in the communication field, satellite broadcasting, satellite navigation, positioning, remote sensing and earth observation or space-based information system etc.Specific attenuation is an important parameter for prediction of rain attenuation and later on design of prediction model.This paper is prepared to estimate the specific attenuation based on ITU-R model by using the TRMM- retrieved statistics of rainfall data as an input and verify the result generated with ITU-R model. In ITU-R model, the specific attenuation is obtained from the rain rate exceeded at percent of the time using the power law relationship that depends on frequency and polarization of the electromagnetic wave. Tropical rainfall measuring mission (TRMM) satellites, in coordination with other satellites in NASA's Earth observing system, provides important precipitation information to increase our understanding between water vapour, clouds and precipitation that regulates Earth's climate. As the satellite signal is at high frequency that is 13.8 GHz which is greater than 10 GHz, there is a high probability of attenuation due to scattering and absorption by raindrops and as a result design of fade mitigation technique (FMT) is a challenge. In our paper, for estimation and validation of specific attenuation, two locations of India have been chosen. One is Ahmedabad and another is Kolkata and data has been taken for the period of 2 decades (2000- 2019). The study shows that throughout the selected locations the TRMM-estimated specific attenuation does not match with ITU-R model exactly. Over these two locations TRMM-estimated specific attenuation values either overestimates or underestimates. In tropical countries, the relation between rainfall rate and rain induced specific attenuation does not follow power relation though it is globally accepted that rainfall versus specific attenuation relationship always follows power relation. This is true for temperate regions but not for India as India is a tropical country where it is very much evident that power law relation is not always followed. Here rain induced specific attenuation varies as rain rate is varying in India with change in latitude and locations following tropical nature. The paper throws light on the fact for unavailability of data set where TRMM data can help to estimate nature of specific attenuation though satellite data set availability will help researcher to find exact values of attenuation for development of FMT.

248. BLOCKCHAIN-BASED PARADIGM FOR SECURE AND TRANSPARENT CERTIFICATE ISSUANCE

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It is more important than ever to have safe and authentic credentials in the ever-changing fields of education and professional development. Conventional methods for verifying and issuing certificates frequently face difficulties with forgeries, inefficiencies, and a lack of transparency. Blockchain is a revolutionary decentralized system with the capability to completely transform the process of issuing and validating certificates. While each system as unique characteristics, issues persist with guaranteeing the verifiability and practicality of blockchain-based records and certifications. With Keccak hashing, this technique generates distinct and impenetrable certificate IDs, allowing for safe and open blockchain-based verification. The paper goes into further detail on how this method operates and why Keccak hashing is a good choice for improving certificate verification on blockchains.

249. MACHINE LEARNING DIAGNOSIS OF LUMPY SKIN DISEASE IN CATTLE HERDS

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In order to diagnose lumpy skin disease in cattle herds, machine learning techniques such as Support Vector Machine (SVM), Gradient Boosting, and Random Forest algorithms were used in this work. The goal was to create a diagnostic tool that would be both accurate and effective in helping to identify and treat this infectious disease early on.The algorithms were trained to classify cases with high accuracy using a dataset that included different clinical and demographic characteristics related with the presence or absence of Lumpy Skin Disease. SVM was utilized because of its capacity to manage intricate and non-linear correlations in the data, and Random Forest and Gradient Boosting algorithms were chosen because of their capacity to enhance predictive performance through group learning. The outcomes showed how well these machine learning models worked in identifying Lumpy Skin Disease in cattle herds, and they also showed how these models may help veterinarians and livestock managers make well-informed decisions about disease prevention and control measures.

250. EXPLORATION OF MACHINE LEARNING TECHNIQUES TO IDENTIFY LIVER DISEASE: AN APPLIED RESEARCH

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The human bodys second-largest organ, the liver is vital for both food digestion and the elimination of harmful compounds. Liver disease can be brought on by viruses, obesity, alcohol consumption, and other factors that harm the liver. In the past, liver disease diagnosis was based on the clinical expertise of physicians, which made it complex, subjective, and time-consuming. With the advances that machine learning has made in a number of domains, there is a rising interest in using machine learning techniques to liver research concerns in order to help physicians diagnose and treat patients. This work aims to use machine learning (ML) algorithms to derive important liver disease predictions from human medical analyses. ML algorithms for medical analysis of human subjects. To validate the relevant predictors found in the PCA, variable importance ranking based on the Gini index was used. In machine learning techniques, training and testing data were utilized to predict categories. Using a publicly available liver disease data set, the study compared binary classifier machine learning algorithms (i.e., artificial neural network, random forest (RF), and XG boost & PSO) to classify patients with liver diseases, facilitating improved diagnosis by medical professionals. When compared to other approaches, the RF greatly improved the accuracy score. Consequently, this implies that ML techniques forecast liver disease by integrating the risk factors, potentially enhancing the inference-based patient diagnosis.

251. ECO 3D PRINTS

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This paper explores an innovative approach to sustainable 3D printing using filament derived from waste plastics. Traditional 3D printing materials often contribute to protecting the environment, but this solution solves this problem by repurposing discarded plastic into a versatile and eco-friendly fiber. This process involves collecting and processing various types of plastic waste, such as bottles and packaging materials, and turning them into consistent and durable printing material. This method not only reduces the impact of plastic pollution on the environment, but also promotes a circular economy. The compatibility of the filament with standard 3D printers makes it possible to create various objects while solving the global challenge of plastic waste. This research contributes to the development of environmentally friendly manufacturing processes and supports a more sustainable future for additive manufacturing technologies.

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252. EXPLORING AUTOMATED PERSONALITY PROFILING ON TWITTER USING LOGISTIC REGRESSION BY FUSING THE CLASSIFIED TWEETS THROUGH NAIVE BAYES AND NLP

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This study delves into automated personality profiling on Twitter by employing logistic regression to fuse classified tweets obtained through Naive Bayes classification and Natural Language Processing (NLP). Leveraging a dataset of tweets, linguistic features are extracted and used for personality classification using Naive Bayes and NLP techniques. Subsequently, logistic regression synthesizes the classified tweets to generate comprehensive personality profiles. Initial findings indicate promising accuracy in personality prediction,highlighting the potential of integrating multiple methodologies for automated personality profiling. Moreover, ethical considerations regarding user privacy and data protection are discussed, emphasizing responsible implementation. Unlike existing works focusing on user profile-based predictions, this approach predicts personality traits based on tweet content, achieving an average accuracy of 95.7%. The experimentation analysis suggests that the Logistic Regression model outperforms Naïve Bayes, underscoring its efficacy in personality prediction on social media platforms.

253. DESIGN AND IMPLEMENTATION OF 32-BIT ARITHMETIC LOGIC UNIT (ALU) WITH 32 OPERATIONS

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This paper presents the design and implementation of 32-bit arithmetic logic unit capability of executing 32 distinct arithmetic and logic operation based on select lines. Utilizing Verilog hardware description language (HDL) the ALU is synthesized on FPGA hardware offering a versatile solution for digital computing tasks. Selection of each operation is facilitated by 5-bit control input, enabling a broad spectrum of arithmetic and logic computations. The project emphasizes the ALU'S functionality and adaptability across various digital computing applications. North worthy features includes clock gating

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and power control optimization and efficiency utilization of hardware resources. The efficiency and correctness of ALU design are confirmed through stimulation and synthesis results, underscoring its utility and practical scenarios

254. AI FOR TRANSLATION APPLICATIONS USING NATURAL LANGUAGE PROCESSING.

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Machine translation is the process in which text is translated from one language to another, is a fundamental challenge in natural language processing. In this work, we present a comprehensive implementation of a machine translation model that leverages an Encoder-Decoder architecture with an attention mechanism.This model enables the translation of English sentences to Hindi, combining the power of deep learning and linguistic insights. The proposed algorithm involves a multi-step process, starting with data loading and preprocessing. The architecture features an Encoder responsible for capturing contextual information from the input sequence. A Gated Recurrent Unit (GRU) processes the embedded input, and an attention mechanism is incorporated within the Decoder to focus on relevant parts of the source sentence during translation. The Decoder generates the target sentence in a token-by-token manner, employing attention context and hidden states. During evaluation, an input English sentence undergoes translation by passing through the Encoder and generating output using the Decoders attention mechanism. The translation is visually enhanced with the calculation of attention scores. To enhance user experience, the translated Hindi output is converted into speech using the Google Text-to-Speech (GTTS) library.

255. IMPLEMENTATION OF CHARGING STATION FOR E-VEHICLE USING SOLAR PANEL WITH IOT

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A spring up number of EVs on the road necessitates a paradigm shift in charging infrastructure,and integrating solar power with a battery energy storage system (BEES) offers a promising solution. This approach not only fosters a pollution-free transportation landscape but also mitigates dependence on fossil fuels by harnessing the boundless potential of solar energy. To optimize this system, a dc-dc boost converter ensures the solar panel voltage aligns with the station battery voltage, whereas Most extreme Control Point Following (MPPT) maximizes sun oriented board yield. Moreover, the Web of Things (IoT) plays a urgent part, empowering real-time observing of the charging station's status through

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a portable application. This application empowers users to initiate charging, view sensor data, and receive alerts. By leveraging cloud storage, user data remains secure, and an LCD display provides supplementary information. GSM modem integration ensures prompt notification of any power fluctuations. To cater to a wider audience, a web page displays charging status, battery vitals, and the location of nearby charging stations. This solar-powered solution with its IoT-based architecture presents a revolutionary step towards a sustainable future for electric vehicles.

256. STRESS MONITORING WITH ARDUINO UNO

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Our project is designed to keep a close eye on human stress levels in real-time. We achieve this by using a pulse sensor to measure heart rate, and the recorded data is displayed in the Arduino IDE code. Stress can hit quickly, sometimes within microseconds, making real-time monitoring a crucial tool. To capture and understand these rapid changes, we rely on tools like the pulse sensor and serial plotter, which visually represent the data. The heart rate, as obtained from our Arduino code, serves as the key to our stress assessment. If a persons heart rate reaches or exceeds 100 beats per minute (bpm), our system identifies them as stressed; if its below 100 bpm, they re considered normal. Beyond this heart rate-based stress assessment, we explore the practical application of stress monitoring within the college context. Were tracking stress levels among 10 to 15 college students as they tackle various academic tasks under time constraints, such as presentations, reading, report production, and email management.Ultimately, our project strives to empower individuals with the knowledge and tools they need to effectively manage stress, leading to a happier and healthier college experience.

257. HEART ATTACK RISK PREDICTION USING MACHINE LEARNING

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The systematic review and analysis of machine learning techniques for heart attack risk prediction is presented in this paper. Globally, heart attacks and other cardiovascular disorders provide serious public health issues. Effective prevention interventions hinge on the early identification of persons who are at risk. We investigate the prediction capacity of various datasets that include clinical, demographic, and

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lifestyle aspects by deploying machine learning techniques.We examine multiple machine learning models, such as logistic regression, random forests, support vector machines, and neural networks, and cover feature selection techniques. The models capacity to forecast heart attack risk effectively is demonstrated by the results, which also provide insights into the model interpretability and therapeutic significance. This work advances the field of cardiovascular risk prediction by synthesising existing research findings and supplying insightful information to academics and healthcare practitioners to enhance patient outcomes and develop effective risk assessment systems.

258. DEVELOPING A SHORT-TERM PREDICTION MODEL FOR ASTHMA EXACERBATIONS

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In order to forecast asthma exacerbations, this work makes use of machine learning algorithms, particularly Support Vector Machine (SVM) and Naive Bayes (NB). Numerous patient data, including symptoms, medical history, and demographics, are included in the collection. The data is separated into training and testing sets after thorough pre-processing, and pertinent features are carefully chosen. The SVM and NB models are assessed on the testing set using metrics such as F1 score, accuracy, precision, and recall. On the training set, the models are trained. Throughout the study, ethical issues are given first priority, and the models that are produced have the potential to improve asthma management in primary care settings and influence clinical decision-making.

259. `SMART VOTING SYSTEM THROUGH FACIAL RECOGNITION

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The smart voting system through face recognition is an innovative approach that leverages advanced technology to enhance the efficiency and security of the voting process. By integrating facial recognition technology into the voting system, individuals can securely and conveniently cast their votes by simply having their faces scanned. This project not only streamlines the voting process but also minimizes the potential for fraud and ensures the integrity of the electoral system. The system offers a user-friendly and reliable solution for a more transparent and accessible democratic process, ultimately contributing to the evolution of a modern and efficient voting infrastructure

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260. FAULT IDENTIFICATION AND INTIMATION SYSTEM TO REDUCE POWER OUTAGE IN LOW POWER DISTRIBUTION SYSTEM

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An innovative project called the Fault Identification and Intimation System for Low Power Distribution Systems uses sophisticated monitoring technologies to dramatically lower power outages. This systems primary purpose is to continuously monitor the low voltage side of power distribution transformers by using a variety of sensors, including float level, temperature, fuse, voltage, and current. When abnormalities are detected, the system uses GSM technology to immediately initiate a response. Real-time communication is made possible by this, allowing line staff to receive notifications promptly. Rapid fault clearance is the main goal to save downtime and guarantee a continuous supply of electricity.Accessibility and convenience of use are guaranteed by the user-friendly interface, which has an LCD display and offers both local and remote monitoring. Fundamentally, the Fault Identification and Intimation System serves as a proactive watchdogover low power distribution networks by providing a complete solution to quickly identify faults, communicate clearly, and speed up the fault clearance procedures, all of which eventually improve service continuity and lower the frequency of power outages.

261. AN EFFICIENT ANALYSIS OF CROP YIELD PREDICTION USING A DATA ANALYSIS TECHNIQUE

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Data analysis methods have become more popular in a number of disciplines, including agricultural research, in recent years. Crop yield prediction is one of the main topics of study in agriculture since it is essential to maintaining food security and helping farmers and policymakers make educated decisions. This research uses a data analysis technique to give an effective examination of agricultural yield prediction. The study makes use of a sizable dataset that was gathered over a number of years and included a variety of aspects,including crop characteristics, weather, and soil quality.Regression models, a type of machine learning method,are applied in the data analysis process in order to effectively estimate crop yield. The accuracy and dependability of the predictions are assessed by evaluating the algorithm's performance using recognized evaluation measures, such as mean absolute error and root mean squared error. The outcomes show how well the suggested analysis method works to predict crop yield, offering notable advantages over conventional statistical methods. In addition, the research pinpoints the critical elements that greatly impact crop yield, enabling farmers and decision-makers to make well-informed choices and carry out the necessary actions to improve agricultural output. The results underline the potential of machine learning algorithms in the agricultural arena and emphasize the significance of utilizing data analysis techniques in crop production prediction.

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262. SPEECH PROCESSING USING ML

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This project in the realm of Human-Computer Interaction (HCI) focuses on advancing Text-to-Speech (TTS) systems, specifically within the English language context, to enhance accessibility and user interaction by incorporating emotional prosody.Despite the significant impact of TTS systems, their limited expressive capacity often results in a clinically detached auditory experience. The project aims to address this constraint by introducing dynamic modulation of rhythm and intonation based on emotional cues, known as prosody, into TTS. Using advanced machine learning algorithms and Python libraries, the project seeks to redefine English content narration. The goal is to create a personalized, culturally enriched, and emotionally resonant auditory environment, pushing the boundaries of HCI in the English language domain. By integrating emotional prosody within TTS, the project contributes to a more nuanced and technically sophisticated auditory content consumption experience, promising a significant advancement in the field.

263. CYBERBULLYING TEXT CLASSIFICATION USING NLP – ALGORITHM BASED TECHNIQUES

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The proliferation of internet and social media platforms has facilitated the dissemination of negative, harmful, false, or derogatory content about individuals, contributing to the phenomenon of Cyberbullying. This form of online harassment encompasses behaviors such as threats, defamation, and disparagement directed at individuals through social media channels. Cyberbullying has emerged as a significant contributor to mental health issues, particularly among young people, leading to diminished self-esteem and heightened suicidal ideation. Without effective measures to combat cyberbullying, an entire generation of young adults is at risk of enduring enduring psychological repercussions. Previous efforts to address cyberbullying have relied on conventional machine learning models, yet these

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approaches often overlook essential features crucial for accurately identifying or classifying bullying behavior. On this study, we provide a novel approach that capitalizes on developments in bidirectional deep learning techniques, notably BERT, to include an extensive variety of characteristics necessary for cyberbullying detection. By incorporating various features and harnessing the power of BERT, our model aims to enhance the accuracy and efficacy of cyberbullying detection on social media platforms.

264. MISSING PERSONS IDENTIFICATION USING SQL DATABASE AND EMAIL ALERT SYSTEM WITH FACIAL MATCHING TECHNIQUES

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This paper presents a Missing Persons Identification system that utilizes a SQL database along with an email alert system, incorporating facial matching techniques. The system aims to identify missing persons efficiently and accurately by comparing their facial features with available records. The SQL database serves as a central repository where information about missing individuals can be stored, including personal details and facial images.The email alert system is designed to send notifications to law enforcement agencies, organizations, and the public when a new missing person report is filed or when a potential match is identified. Facial matching techniques, such as deep learning-based algorithms, are employed to compare facial features extracted from images of the missing person and those in the database. The proposed system can significantly enhance the identification process, saving valuable time and resources for law enforcement and offering a higher chance of reuniting missing individuals with their families and loved ones.

265. IOT BASED SMART AGRICULTURE MONITORING AND IRRIGATION SYSTEM USING NPK SENSOR

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Modern agriculture faces many issues, including water constraint, which calls for the integration of innovative technologies to maximize agricultural output. The LoRa-based Wireless Smart Irrigation System, which includes sensors to measure soil temperature, humidity, and important nutrient levels including nitrogen, phosphorus, and potassium (NPK), is a comprehensive solution that is proposed in this work. The system makes use of LoRa modules and Arduino microcontrollers to provide long-range data transmission, allowing for real-time soil condition monitoring. It also adds a novel feature: if the NPK levels drop below a certain threshold, the system will automatically irrigate the fields with water

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that has been enriched with NPK. This method provides a sustainable way to maximize agricultural productivity while preserving resources by fusing sensor data analysis with automated irrigation techniques.

266. ENHANCING HR ANALYTICS: NLP-BASED RESUME PARSING FOR JOB MATCHING

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In today's technological future landscape of professionals life and job market demand for positions varies across technical fields are staggering, resulting in finding vacancy. The challenge of imbalance between vacancies and available positions in certain fields, the organizer encounters several issues in finding the best candidate which causes in consumption of enormous amounts of man power. To deal with the issue the research finds a way an Ai powered resume screener utilizing with Natural Language Processing techniques. The outlines of research work is the moto of finding an efficient identifying of candidate by extraction of information in resume and the skills and the works done by saving the time of organizers.The work elaborates the development of the individual user and the organizer within themselves with recommendations of suitable individuals with profiles by harnessing of NLP, which decreases the burden of handling large semi-structured data, ultimately which improves the efficient way of recruitment way.

267. VISIOGUIDE

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In this project, we present a smart glass system designed to help visually impaired individuals. The smart glass is a suggested remedy for persons who struggle to identify their surroundings and recognize hazards and obstructions in front of them when they are walking. The system is intended to function as an alert system and artificial vision. The system is made up of two sensors: an ultrasonic sensor and an Arduino Uno microcontroller, which receives sensor signals and processes them into short pulses that

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are sent to the ARDUINO pins that are connected to buzzers and alarms. We also connect an emergency button to the Arduino Uno so that, in the event of an emergency, the emergency buzzer will activate. Our goal is to develop a smart glass that is lightweight, inexpensive, and appropriate for the majority of blind individuals. All societal sectors and their families that require them can have access to it.

268. DESIGN AND FABRICATION OF MULTI -ANGULAR GEARLESS DRIVE

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This study presents the conceptualization, design, and fabrication of a revolutionary multi-angular gearless drive system. Traditional gear systems often face limitations in efficiency, noise, and complexity. In response, our approach employs innovative angular mechanisms to achieve seamless power transmission without conventional gears. The design integrates precision engineering and advanced materials to enhance durability and reduce friction. The fabrication process involves state-of-the-art manufacturing techniques, ensuring the realization of a compact, efficient, and low-maintenance gearless drive. Experimental results demonstrate the system performance across various angular configurations, showcasing its versatility and potential applications in diverse engineering domains. This research contributes to the evolution of power transmission mechanisms, offering a promising alternative to traditional gear-based systems. The multi-angular gearless drive is an innovative system that eliminates traditional gears, employing a unique mechanism for power transmission. This abstract outlines the design and fabrication process, emphasizing efficiency, reduced friction, and enhanced durability. The drive incorporates multiple angles to optimize torque distribution, resulting in improved performance and energy savings. The fabrication involves precision engineering, utilizing advanced materials and manufacturing techniques. The proposed gearless drive offers a promising solution for various applications, showcasing a balance between simplicity and high-performance requirements

269. CREDIT CARD FRAUD DETECTION USING MACHINE LEARNING

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The Project is focused on credit card fraud detection in real world scenarios. The dramatic rise in credit card fraud underscores the critical need for effective detection mechanisms in the real world. With the

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exponential rise in credit card fraud incidents, the need for robust fraud detection systems has become imperative. This project proposes an advanced model aimed at detecting fraudulent activities in credit card transactions by leveraging machine learning algorithms. By integrating Decision Trees and Random Forest, the system achieves heightened efficiency in anomaly detection. The methodology begins with the collection of credit card usage datasets categorized into training and testing sets. These datasets undergo rigorous analysis utilizing Random Forest and Decision Trees algorithms. The amalgamation of these algorithms enhances the systems capability to discern illicit transactions amidst vast amounts of data. The proposed system offers comprehensive features essential for detecting fraudulent activities, adapting to the evolving landscape of criminal tactics. Leveraging advancements in machine learning and artificial intelligence, automation becomes key in mitigating the labor-intensive nature of fraud detection. Through extensive experimentation, the systems performance is evaluated based on metrics such as accuracy, sensitivity, specificity, and precision. Results demonstrate the efficacy of the combined algorithms, with Random Forest achieving an impressive accuracy rate of 98.6%.Hence we developed system presents a robust solution for combating credit card fraud, providing a sophisticated tool for financial institutions and businesses to safeguard against fraudulent activities in real-world scenarios.

270. PRODUCT PROMOTION APP USING AUGMENTED REALITY

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The "Product Promotion App Using Augmented Reality" is a smartphone application that uses augmented reality (AR), which has become more and more popular over the past ten years. The use of technology to transform product marketing and improve consumer engagement. It gives businesses a user-friendly platform to market their goods by layering digital models over reality. The software includes sophisticated methods for computer vision that accurately track and position objects. The project aims to solve the challenge of bridging the gap between online shopping and actual product experience by developing a user-friendly product advertising application using Augmented Reality see and interact with the product, which makes it difficult to make confident purchasing decisions. The project uses MyWebAR, a third-party AR modeling service, to seamlessly integrate AR capabilities into the app. My WebAR's advanced AR modeling and rendering technology enables realistic product rendering. Mobile apps are developed using Flutter for cross-platform compatibility and Firebase for backend services. Firebase handles user authentication, real-time data synchronization, and cloud functions. The app's UI/UX design prioritizes user-centric principles, including intuitive navigation and controls. User feedback and usability testing indicate iterative design improvements. The AR modelling from MyWebAR provided outstanding product visualizations, fostering user self-assurance in making purchase choices. Firebase's real time database ensured seamless information synchronization, while user-centric layout and rigorous testing contributed to the app's success. Marketing efforts successfully attracted and retained customers. The extended consumer engagement can be attributed to the app's capacity to bridge the distance between online purchasing and actual-world product reviews, allowing customers to visualize merchandise in their own spaces earlier than shopping. This immersive revel in has been verified to be a sport-changer in e-commerce.

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271. AUTOMATIC PAINT MIXER MACHINE USING PLC

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An automated paint mixer machine is a sophisticated device that allows paint to be mixed mechanically for a variety of businesses. using this project, labor - intensive operations and human error will be decreased by automating manual mixing using PLC. Here, a machine is used to blend five basic paint colors to create a different hue. The paint colors are mixed using a motor. The machine automatically fills the cylindrical container at the conveyor with a mixture of colors. The can is propelled forward by this action. This automated device increases cost-effectiveness, productivity, and quality control. This PLC-powered automated paint mixer machine is a great way for businesses to enhance their paint mixing procedures. The PLC-based Automatic Paint Mixer Machine, which offers a balance between efficiency, accuracy, and flexibility, is a revolutionary method to paint manufacture. The enterprise looking to enhance their paint mixing procedure has a useful option in the suggested Automatic Paint Mixer Machine with PLC.

272. COLLEGE MANAGEMENT SYSTEM USING DJANGO

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Technology has changed our daily life routine as well as living style. So, student of school or colleges or university require application that supports smart phone to get all type of information related to examination, lecture notes, placement regarding question, notification, events, transportation etc. instead of calling system because almost all mobile users has smart phone now days. Each and every educational institute provides limited services to their users including students, parents, guardian and public. If provided services are more than ease of using is very difficult. That is why student's interest towards using college or school or university is decreasing day by day. We designed an application to fulfil the requirement of students or parents or employee based on present scenario of market and latest technology like java, android, GPS etc. to solve the students' problem. A portion of the highlights that it can incorporate into this Application system.

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273. DETECTION AND PREDICTION OF DISEASES IN HYDROPONIC FARMING FOR SUSTAINABLE AGRICULTURE

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Nutrients are crucial for plant growth and health. Inadequate macronutrients can lead to various damage to plants. However, deficiencies of different macronutrients often show similar visual symptoms, creating challengesfor farmersto accurately identify them. Leveraging the synergy between computer vision technology and IoT presents a non-destructive approach to monitor and control nutrient levels, particularly in hydroponic systems. Although computer vision helps analyse plant image data based on different characteristics, a single characteristic may not accurately represent overall plant health. Moreover, accurate knowledge of macronutrient deficiency percentages is essential to support advanced precision agriculture systems. In this study, we propose a multi-layer perceptron (MLP) architecture capable of multitasking, including both recognition and estimation tasks. Furthermore, we aim to determine the optimal architecture by considering a combination of three key features: texture, color and leaf shape. Through rigorous analysis and design, our proposed model shows promising potential for simultaneous identification and estimation of macronutrient deficiencies. This model can contribute significantly in advancing precision agriculture practices in India.

274. A Comprehensive Review on Underwater Image Clarification Techniques.

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Underwater imaging plays a key role in many fields, from marine biology to archaeological research. However, the unique challenges of the underwater environment, including light attenuation, colour distortion and scattering, significantly affect the quality of captured images. This review explores advances in underwater image clarification techniques to address these challenges and improve the visibility of underwater scenes. The review begins by outlining the clear challenges of underwater imaging, emphasizing the need for efficient image analysis methods. Traditional techniques such as colour correction and contrast correction are explored, revealing their limitations and strengths. More in-depth information is provided on dedicated anti-darkening algorithms, including dark channel progression and colour suppression, which shed light on their effectiveness in mitigating dark effects and improving image clarity. The integration of machine learning, especially Convolutional Neural Networks (CNNs), for the interpretation of underwater images is being investigated, showing significant advances in the use of artificial intelligence to improve visual results. Real-time processing and its importance in underwater applications are discussed, emphasizing the importance of efficient algorithms for fast image clarification. The paper also discusses the integration of imaging techniques into underwater systems, considering compatibility with different hardware configurations. Emphasis is placed on user-friendly interfaces and their role in making images accessible to non-experts. Case studies from various fields illustrate the practical applications and implications of image interpretation in underwater research.

275. SUPPLY CHAIN MANAGEMENT FOR AGRICULTURAL PRODUCTS USING BLOCKCHAIN

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Supply chain management is a crucial component of contemporary businesses., but traditional supply chain systems face several data integrity, transparency, and security challenges. However, with the advent of Blockchain technology, these challenges can be addressed effectively. Blockchain technology offers a solution to these issues with its decentralized, immutable, and transparent ledger. By using blockchain, stakeholders can securely record transactions and track products, improving transparency and trust while reducing fraud. By incorporating blockchain, businesses can securely record transactions and track products, significantly improving transparency and trust while minimizing fraudulent activities. Additionally, blockchain can enhance various supply chain processes, including product traceability, provenance tracking, inventory management, and contract execution. This paper explores the utilization of blockchain technology to enhance supply chain management processes for businesses.

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276. GESTURE-DRIVEN VIRTUAL ASSISTANT: EMPOWERING INDIVIDUALS WITH IMPAIRMENTS

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Innovative human-computer interaction system designed to enhance user experience and accessibility in computing environments. Leverages computer vision and machine learning techniques to track hand gestures, transforming them into cursor movements and click actions on a GUI. A novel camera vision-based cursor control system, using hand gestures captured from a webcam through a color detection technique. Allows the user to navigate the computer cursor using their hand-bearing color caps and dragging will be performed using different hand gestures. Convolutional Neural Network (CNN) was selected as the machine learning model due to its proficiency in image recognition tasks. The novel was trained on the pre-processed dataset, achieving impressive accuracy in gesture recognition, fed into the trained CNN for accurate gesture classification. Results demonstrate a robust and reliable virtual mouse system with minimal latency. When the hand is moved upwards, the cursor ascends on the screen, mirroring the gesture. Conversely, a downward hand gesture leads to a corresponding downward movement of the cursor. The system will be implemented using the python and OpenCV. Gesture-based virtual mouse system offers a promising avenue for revolutionizing computer-human interaction. Its intuitive nature allows users to navigate digital environments effortlessly, potentially benefiting individuals with mobility impairments or those seeking more immersive computing experiences.

277. USING LAYER-WISE TRAINING FOR ROAD SEGMENTATION IN AUTONOMOUS CARS

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Path finding in autonomous vehicles is a new use for computer vision.Autonomous driving depends on two key subfields of computer vision: semantic segmentation and semantic scene interpretation. A number of sizable sample datasets and deep learning techniques are used to create an appropriate model for path finding semantic segmentation. Given the significance of this work, reliable and accurate models must be trained to function well across a range of lighting and weather scenarios as well as in the presence of noisy input data. The study assesses layer-wise training, a novel learning approach for semantic segmentation, on an efficient neural network (ENet), a lightweight architecture.On two RGB photo data sets covering road (CamVid) and off- road (Freiburg Forest) pathways, the performance of the proposed learning method is compared with the classical learning approaches in terms of mIoU, . Transfer learning is only partially required when using this approach. Additionally, it enhances network performance when input is loud.

278. COMPARATIVE STUDY OF MACHINE LEARNING REGRESSION MODELS FOR SOFTWARE EFFORT ESTIMATION

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Effort estimation plays a crucial role in the success of software solution delivery within the software development process. It can be difficult to predict the number of person-months or person-hours required, particularly in the beginning phases of software development. This paper explores various models from machine learning to identify a reliable and precise estimation approach for efficient effort prediction, utilizing multi-ple datasets. Through experimentation and comparative analysis, it is evident that machine learning enhances the performance of Software Development Effort Estimation (SDEE). Among the models examined, Linear Regression emerges as the most robust and stable option, demonstrating superior accuracy in estimation compared to other models. This research underscores the potential of machine learning to elevate The R-squared metrics and dependability of effort estimation within the domain of Software Development

279.AI BASED FARMER'S ASSISTANCE CHATBOT

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India has established itself as a prominent player in the global agriculture sector and has predominantly relied on an agriculture based economy. These challenges include inadequate farming techniques, insufficient crop materials, improper crop planning, and imbalanced fertilizer usage. This project presents a prototype of a chatbot framework designed to assist individuals, including farmers, in managing their crops and predicting their needs. The chatbot predicts fertilizer requirements, nutrient levels in crops, and provides valuable knowledge to users regarding basic agricultural needs. The structure employs Natural Language Processing and draws information from predetermined data to deliver responses to user queries. To ensure accuracy, the chatbot analyzes previous interactions and sources data from "The Indian Council of Agricultural Research"

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280. AIRCRAFT ENGINE REMAINING USEFUL LIFE PREDICTION

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Conventional approaches of estimating remainder (RUL) in the area of heavy machines and health sector machines depend substantially on particular details regarding degradation processes of fundamental elements, that can often be rendered harder by absence of proper physical or expert models. In this paper, a new anticipatory preservation plan, focused on data-centered methodology has been elaborated upon which leverages convolutional neural networks with deep connections (DCNNs). For better the collection of features by DCNN, an individual time framing technique is utilized for sample preparation. Avoiding the demand for prior experience in forecasting and the processing of signals simply employing raw data collected with standardization as feeds for the networks renders this technique a lot simpler than before. The suggested technique displays an outstanding predictive accuracy when tested using the widely used C-MAPSS database on aero-engine unit forecasting during experiments. Compared against existing methodologies and up-to-date outcomes obtained from the same information set, these findings show that the suggested approach fares better. It may be extrapolated form the above results which the newly developed framework for data-driven based prediction approach provides an optimistic future in this area already congested with other studies.

281. SECURED EMAIL VERIFICATION OVER PHISHING ATTACK

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The internet is a necessary part of everyone's life these days. Nowadays everyone uses the internet to exchange and retrieve data information and other resources data security is important at this critical juncture and comes with several challenges every minute numerous cyber attacks occur causing harm to numerous individuals these attacks occur often every second. "We recognize 'phishing' as a prevalent and easily executed cyber attack method, encompassing fraudulent attempts across various platforms such as websites, phone calls, texts, and emails. With the extensive exchange of personal and corporate data via emails, our specific focus is addressing email phishing attacks, utilized by perpetrators to gain

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unauthorized access to user information. Our paramount goal is to prevent these email phishing attacks from reaching users. To achieve this, we offer an advanced solution. If an email is identified as phishing, it will be halted before reaching the recipient - delivered only once and automatically terminated upon detection.This proactive approach is aimed at addressing the issue of phishing attacks ,thereby safeguarding users from potential risks. Our emphasis is on proactively intercepting malicious emailsto minimize the threats they pose.

282. DESIGN & ANALYSIS OF MINIATURIZED MICROSTRIP PATCH ANTENNA USING SUBSTRATE INTEGRATED WAVEGUIDE

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In this work, a smaller-scale microstrip patch antennas design and analysis are demonstrated applying substrate integrated waveguide (SIW) technology. The suggested antenna is made out of a tiny slot that a quarter-mode SIW (QMSIW) can feed a rectangular patch through. At 3.5 GHz, The antenna provides a fair compromise between coverage and capacity. It is appropriate for urban and suburban deployments where non-line-of-sight (NLOS) circumstances may arise because of its rather good propagation properties. The ground plane and patch element that make up the basic and compact design of the suggested antenna are its two main components. Better isolation is provided by the suggested antenna at 22.19 DB and 17.8 DB in 3.8 GHz and 7.8 GHz, respectively.

283. MACHINE LEARNING INSIGHTS INTO NON-ALCOHOLIC FATTY LIVER DISEASE PREDICTION

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Addressing a prominent concern in contemporary society, non-alcoholic fatty liver disease (NAFLD) arises from an accumulation of fat in the body, posing a substantial health challenge. In essence, obesity-related liver illness is more harmful since it shortens peoples lives. The liver releases fats, such as triglycerides and hyperlipidemia. These are a few of the lipids that the liver has evolved for the bloodstream. The liver may be impacted by the slowing down of blood flow that occurs when these fats are consumed in excess. Inflammation and damage to the liver are possible outcomes if fat storage is found in the liver cells. Therefore, identifying liver diseases is essential to minimizing their detrimental

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effects. To create a good prediction model, a few machine learning methods are being studied the proposed CROSS VALIDATION and boosting techniques system is intended to treat non-alcoholic fatty liver disease. We thoroughly suggested the Randomized search CV and Grid search CV algorithms in addition to other widely used models. According to the experimental results, the suggested architecture generally improves the accuracy of the disease predictions, ensuring a high level of model resilience and robustness.

284. PERFORMANCE ANALYSIS OF RECONFIGURABLE INTELLIGENT SURFACE ASSISTED NON ORTHOGONAL MULTIPLE ACCESS SYSTEM

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In this study, we will take a close look at the BER performance of a NOMA system that uses a RIS to aid with the uplink power domain. By optimizing spectrum efficiency and improving communication reliability, the suggested system makes use of RISs capacity to modify the propagation environment. The BER performance of the NOMA system including RIS is assessed under different conditions, taking into account variables like channel fading, interference, and power allocation schemes, using meticulous mathematical modeling and simulations. The outcomes confirm that RIS integration can significantly improve BER and have the potential to transform wireless communication systems in the future.

285. KELOID DISEASE DETECTION USING DEEP LEARNING RESNET50 ALGORITHM

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A Keloid is the product of aberrant wound healing, when patients; growth states and blood perfusion vary. Keloid enlargement can be effectively inhibited by actively monitoring and treating actively forming keloids at the initial stage, which has significant medical and cosmetic ramifications. This study addresses the challenging task of inhibiting keloid enlargement through early-stage monitoring and treatment. Existing approaches utilizing Laser Speckle Contrast Imaging (LSCI) for blood perfusion determination require time- consuming manual inspection and annotation. With a focus on improving keloid growth status evaluation, this retrospective analysis incorporates intensity and blood perfusion images from 150 untreated keloid patients. The proposed model, termed the Multi-layered Transform Architecture,introduces a cascaded vision transformer architecture, combining the strengths of vision transformers with a hierarchical approach. Additionally, the workflow incorporates a Masked Auto encoder for denoising and feature learning, and a dilated UperNet decoder. The results demonstrate noteworthy improvements across key metrics. The proposed architecture enhances the Dice coefficient by 2% for keloid segmentation, reduces perfusion unit error by 8.6 ± 5.4, decreases relative error in blood calculation by 7.8% ± 6.6%, and achieves a 1.4% increase in growth state prediction accuracy (0.927 compared to a baseline). This novel approach not only streamlines the segmentation process but also offers enhanced accuracy in predicting keloid growth states, showcasing its potential for significant medical and cosmetic implications in the early intervention and treatment of keloids.

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286. HAND GESTURE SYSTEM FOR DEAF AND DUMB USING GENERATIVE AI

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This paper introduces a novel method for hand gesture recognition utilizing flex sensors and Arduino UNO. The sensor data corresponding to various hand gestures is processed using olden machine learning algorithms. Furthermore, a demonstration of adversarial learning reveals enhanced classification performance when contrasted with traditional methods. The findings illustrate an impressive accuracy rate of 90%, along with precision, recall, and F1-score metrics of 81.77%, 84.37%, and 82.78% respectively, highlighting the effectiveness of the proposed model. Performance evaluation is essential, with critical terms comprising Gesture-based Hand Identification, Flex Sensor, Adversarial Machine Learning, and Neural Network.

287. BATTERY OPERATED VEHICLE TRACKING MODULE BASED ON IOT

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The Battery Operated Vehicle Tracking Module Based on IoT& project presents a holistic solution to enhance the safety and security of battery- operated vehicles. This system integrates GPS technology for precise location tracking, automated ambulance dialing with GPS coordinates in case of accidents, and vibration sensors to detect and notify the owner of potential theft incidents. By leveraging IoT, this approach overcomes the limitations of existing tracking systems, offering improved real- time tracking accuracy, efficient accident response, and advanced security features. The successful implementation of this system demonstrates its potential to significantly contribute to the safety and security of battery-operated vehicles, addressing objectives such as real-time monitoring, automatic emergency response, and theft prevention.

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288. IMPROVED INTERLEAVED HIGH GAIN SUPER LIFT CONVERTER WITH HIGH EFFICIENCY FOR RENEWABLE ENERGY APPLICATION

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A new super-Lift converter, which is appropriate for renewable energy applications, The proposed converter consists of switched capacitors and coupled inductors. This combination can provide a relatively voltage gain while operating with small duty cycle. The converter can be powered either by one individual DC voltage source in an interleaved manner or two independent DC voltage sources as a multiport converter. The configuration of the proposed converter has advantages such as low power losses, longer lifetime of input sources due to non-pulsating input current, low voltage stress across the main switches and slight output voltage fluctuation. The POSLC is given with a constant input voltage of 12V, 50% duty cycle and switching frequency of 50kHz and 36V as output voltage.

289. WIRELESS MONITORING AND ALERT SYSTEM FOR IMPROVING SAFETY IN COAL MINING THROUGH IOT TECHNOLOGY

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Using Internet of Things technology, the suggested wireless monitoring and alarm system offers a complete solution for improving safety in coal mining sites. The system, which is driven by an LPC2148 microprocessor and integrated with temperature, humidity, and gas sensors, keeps a close eye on the environmental conditions within mines. By using LoRa technology, data from the sensors is effectively sent to a specified recipient across a long wireless transmission range. After successful reception, the gathered data is sent via a USB to UART interface to a personal computer, allowing for real-time analysis and monitoring. This system takes a proactive approach to recognizing and minimizing possible dangers, hence enhancing overall safety in coal mining operations. It does this by delivering timely insights regarding temperature, humidity, and gas levels.

290. SECURE AUTHENTICATION BASED PERSONALITY PROFILER

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Face authentication technology to upgrade web application security by relieving different dangers, including key-lumberjacks, screen catch assaults, and shoulder surfing.Also, we investigate the meaning of character attributes in molding peoples cooperations with their current circumstance. Using learning calculations and high level information mining strategies, our undertaking means to separate and dissect client attributes information, empowering computerized character forecast and grouping. Moreover, our web application consolidates discourse acknowledgment abilities to compute clients on goingstate of mind. Looking forward, we imagine joining these procedures to foster a far reaching framework fit for recognizing people in light of character order and discourse examination, in this way offering improved safety efforts for online stages

291. MENTAL ILLNESS MONITOR INTEGRATING ML FOR PHYSICAL AND MENTAL HEALTH TRACKING

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Significant risks to both physical health and mental well-being are posed by stress, prompting the need for the development of comprehensive assessment techniques. In this study, data from electroencephalogram (EEG), temperature sensors, accelerometers, and heartbeat sensors are combined to learn more about the physiological effects of stress. Through the analysis of relationships between EEG brainwave patterns, skin temperature changes, physical movement captured by accelerometers, and heart rate variations, nuanced insights into the complex dynamics of stress are sought. Connections between EEG activity and physiological parameters recorded by accelerometers and heartbeat sensors were observed across different stress scenarios. A holistic perspective on stress assessment is offered by this integrated approach, potentially enhancing the ability to detect and monitor stress levels more accurately. By emphasizing the importance of multi-modal physiological monitoring, including in-depth analysis of EEG, temperature, accelerometer, and heartbeat data, the potential for advancing stress management strategies is underscored by our study. Broad implications for improving stress interventions, such as meditation practices and biofeedback training, are revealed, ultimately leading to more effective stress relief and overall well-being. Furthermore, machine learning algorithms, including k-nearest neighbours (KNN), Decision trees (DT), Random Forest (RF), and Gaussian naive Bayes (GNB), were trained to analyse the data. The findings elucidate the complementary information offered by EEG, ECG, accelerometer, temperature, and heart rate sensor measurements under stress conditions, enhancing our understanding of stress-related physiological responses.

292. DIGITAL HEALTH CONNECT: TELE HEALTH & EXTENDED CARE WITH DIGITAL PRESCRIPTIONS

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Digital Health Connect represents a paradigm shift in healthcare delivery, leveraging innovative technologies to bridge the gap between patients and healthcare providers. At its core, this project aims to enhance access to high-quality healthcare services through the pioneering use of telehealth and extended care solutions facilitated by digital platforms. Particularly crucial for individuals in remote or underserved areas, Digital Health Connect transcends geographic barriers, ensuring equitable access to healthcare regardless of location. By fostering real-time communication between patients and healthcare professionals via video conferencing and virtual channels, this initiative eliminates the need for physical travel to healthcare facilities, offering a convenient solution for individuals with mobility constraints or seeking specialized care beyond their local vicinity. Moreover, the integration of digital pharmacy services with the digital health interface revolutionizes medication management, enhancing prescription adherence and minimizing errors. Digital prescribing eliminates the reliance on physical prescriptions, mitigates the risk of errors, and improves efficiency in medication management. Patients can access their digital prescriptions conveniently, facilitating medication refills and adherence to prescribed treatment plans. Overall, Digital Health Connect is poised to transform healthcare delivery by harnessing the power of technology to improve access, convenience, and quality of care. By facilitating seamless communication and collaboration between patients and healthcare professionals, this project not only aims to enhance health outcomes but also elevate the overall patient experience in the digital era.

293. AUTOMATED HIGH AVAILABILITY DEPLOYMENT WEB APP USING KUBERNETES

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Kubernetes is a notable stage for regulating containerized applications in a conveyed environment. Nevertheless, sending and keeping an uncommonly open Kubernetes bunch is surely not an immaterial endeavor, especially in exceptional circumstances. We propose a smart procedure for mechanized high-openness association using Kubernetes, which utilize the thoughts of chairmen, custom resources, and controllers. Our system hopes to deal with the game plan and the chiefs of bundles in Kubernetes, as well as to ensure the relentless quality and adaptability of the applications running on them.

294. EV BATTERY TEMPERATURE PREDICTION USING LSTM ALGORITHM

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In a rapidly evolving world, characterized by a growing emphasis on sustainable transportation, the pursuit of enhanced Electric Vehicle (EV) efficiency and reliability has become paramount. This abstract presents an innovative and intelligent system poised to redefine the management of EV batteries, prioritizing optimal performance and user safety. Our notable framework uses the capacities of cutting-edge LSTM machine learning algorithm to precisely anticipate, screen, and control EV battery temperatures. Its core objectives are clear: maintain battery temperatures within the optimal range and preemptively identify critical anomalies before they escalate. At the heart of this system lies its machine learning capabilities, continuously forecasting battery temperature trends. When optimal temperature is not within the stipulated range, the system swiftly takes action with dual purposes: heating or cooling the battery to safeguard its health and extend its lifespan. Yet, this system goes beyond mere reactivity to temperature extremes; it excels in predictive prowess, identifying irregularities in battery temperature patterns before they become critical issues. This proactive approach equips the system to issue timely alerts and intervene to prevent potential hazards. What sets this system apart is its user-centric design. Real- time temperature data, predictive insights, and alerts essential statistics, enabling them to stay well-informed, take preventive actions, and experience worry-free journeys.

295. SMART SEATING: AI STRATEGIES FOR DYNAMIC EXAM HALL LAYOUTS

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The project aims to develop a Smart Seating Arrangements to address the existing challenges in Allocating Seating Arrangement to the Students. It presents an innovative approach to optimizing seating arrangements in exam halls using artificial intelligence (AI). The research focuses on developing algorithm using Constraint methodology to dynamically allocate seating layouts based on factors such as exam schedules, space constraints, and accessibility requirements. By leveraging constraint satisfaction Programming (CSP) algorithms and optimization techniques, the AI system aims to enhance efficiency, fairness, and security in exam administration. The implementation of smart seating strategies using ASP.net and MySQL offers benefits such as increased efficiency, fairness, and enhanced security ultimately leading to improved exam experiences for students and administrators alike. To achieve this, the system uses constraint algorithms that consider factors like student database, subjects, exam hall and time table. It allocate seats to ensure fairness and prevent cheating while respecting the specific constraints are specified by the institution. The system also offers flexibility and adaptability. For efficient searching both Depth-first search(DFS) and Breadth-first search(BFS) are used. It can handle last-minute changes, such as sudden unavailability of an exam hall due to some reason then the system can generate exam hall plan with available halls quickly. Additionally, the system has the feature for the students to find their exam hall by their register number.

296. OFFLINE PAL SCHEDULED COMPANION USING NATURAL LANGUAGE PROCESSING

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By producing hearty Large Language Models , to improve the fathoming and examining of questions from clients without depending on constant web access. This research focuses on the main point of contention of upgrading disconnected chatbot working appropriately. To empower a significant and responsive conversational involvement with low-network settings, the recommended framework centers around asset effective handling, setting safeguarding, disconnected learning capacities, and

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consistent disconnected information recovery. The meaning of safety and security is additionally underlined in the review. while evaluating the chatbots adequacy in disconnected and temporary conditions utilizing measures like reaction time, exactness, and client satisfaction. The discoveries of this study advance the availability and ease of use of chatbots in different settings, ensuring that clients might exploit conversational connection points regardless of their degree of admittance to the web.

297. EAGLITE – ATMOSPHERE AND HUMIDITY SENSING USING CAN-SAT

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This project focuses on the development of a compact and efficient atmosphere and humidity sensing system designed for Can-Sat (Canister Satellite) applications. Can-Sats are miniature satellites enclosed within a soda can-sized container, typically deployed through high-altitude balloons or rockets for educational and research purposes. The proposed sensing system aims to enhance the capabilities of Can-Sats by providing accurate and real-time data on atmospheric conditions and humidity levels during their missions.

298. COAL MINING SAFETY SUPERVISION AND NOTIFYING SYSTEM

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The coal mining industry faces numerous challenges related to safety, efficiency, and environmental impact. To address these challenges, this paper proposes an IoT-based monitoring and alerting system tailored for coal mines, leveraging Zigbee communication technology and the Atmel AT89S52 microcontroller.The system aims to enhance safety by continuously monitoring various parameters within the coal mining environment, such as gas levels, temperature, humidity, and seismic activity. The Atmel AT89S52 microcontroller serves as the central processing unit, responsible for collecting data from sensors deployed throughout the mine. Zigbee wireless communication protocol is employed for transmitting real-time data from sensors to the central processing unit.

299. AVIATION INFORMATION EVALUATION UTILIZING THE MACHINE LEARNING TECHNIQUES

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To improve an airlines efficiency, it is essential to accurately anticipate flight delays. The majority of forecasting methods are used to anticipate flight delays in one way or another, and recent research in business has focused on the use of gadget learning skills. This article discusses additional outcomes from machine learning and the various factors that influence how Flight slows electricity waft. Instances of advanced issues foreseeing ordinary flight delays. To make a dataset Reason for the Mechanized Ward Observation B (Advertisements B) message design Gotten ahead of time and incorporated with various measurements like climate Status, flight plan and air terminal measurements. Made prescient undertakings. They have remarkable pieces of arrangement and relapse work. Test results show that Long-fast time span memory (LSTM) might method at any point flight Information assortment, but the inquiry is repetitive in our limited data set. To analyze Likewise with past plans, the irregular forest model can procure a superior point Expectation exactness (90.2% for twofold kind) and agreeable Perhaps re-framework.

300. AUTOMATIC ALARM SYSTEM FOR DROWSY DRIVERS

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In many studies it has been found that one of the most important reasons for vehicles accident is drowsiness of the drivers while driving. The main goal is to carefully observe the drivers eye movements while they are driving, recognizing specific patterns that suggest drowsiness. Alongside the primary aim, supplementary objectives have been recognized to enhance the overall effectiveness and usability of the model. Foremost among our priorities is the pursuit of platform neutrality, guaranteeing smooth integration across a wide range of computing platforms. By meeting these goals, the model seeks to make a substantial contribution to road safety by actively tackling the pressing problem of driver drowsiness.

301. MACHINE LEARNING APPROACHES FOR REAL-TIME SMOKING DETECTION THROUGH BIO SIGNAL ANALYSIS

Mr. Aleemullakhan Pathan 1 , C. Shiva Poojitha 2 , M.T. Vandana 3 , P.T. Varshitha 4 , K. Veena Sree 5

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This work is to employ machine learning methods to identify smoking by analysing bio signals. We want to develop a robust model that can accurately identify smoking habit by utilizing physiological signals such as skin conductance, breathing patterns, and heart rate variability. The proposed approach comprises data collection from wearable biosensors, bio signal preprocessing, and machine learning-based data classification. With potential applications in public health treatments and smoking cessation programs, the objective is to provide a real-time, non-intrusive means of tracking smoking patterns Our study extends the relationship between bio signal analysis and machine learning for behavioural monitoring by tackling a significant health issue. Using a range of machine learning algorithms, including logistic regression, and there is support vector machines (SVM), also decision trees, and random forests, and artificial neural networks (ANN), the study investigates many approaches for smoking detection. Furthermore, to enhance model performance, feature selection techniques including variance inflation factor (VIF) and mutual information-based feature selection (MIC) are applied.

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302. A LOW POWER ANALYSIS OF EFFICIENT MAJORITY LOGIC BASED APPROXIMATE ADDRESS AND MULTIPLIERS

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Approximate computing (AC) endeavours to amplify efficiency and diminish power consumption by tackling error tolerance amid the computational process, embodying a pioneering strategy particularly advantageous for nanoscale technology. Predominance logic (PL) emerges as a fundamental element in this framework, extensively employing the 3-input majority voter (MV) in digital circuit design across various emerging nanotechnologies. This undertaking unveils blueprints for approximate summing devices and multipliers anchored in predominance logic (PL). The proposed multipliers employ rough compressors alongside a supplementary bit-oriented reduction circuit, elucidating a method for selecting complementary bits. An efficacy coefficient is introduced to gauge the significance of diverse complementary bits based on the multipliers magnitude. Error assessments and hardware parameters, encompassing latency and gate complexity, are utilized to assess the suggested blueprints, which surpass alternative PL-based designs documented in technical literature. Furthermore, instances of error-tolerant applications are presented to underscore the viability of the proposed resolutions.

303. PREDICTIONS OF COLLEGE STUDENT'S MENTAL STRESS USING MACHINE LEARNING ALGORITHMS

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Abstract: An increasing number of teenagers and young adults are experiencing depression and anxiety, largely attributed to mental stress. This study aims to pinpoint factors influencing mental well-being, particularly among students in engineering colleges. Employing two machine learning models, logistic regression and Support Vector Machine (SVM), the objective is to forecast stress levels in these students. Machine learning plays a pivotal role in identifying and anticipating anxiety levels at different stages. Various machine learning techniques, including Decision Trees, Support Vector Machines, Naive Bayes, and KNN, have been utilized to forecast stresslevels among college students. Data for this research, comprising responses from 513 students enrolled in engineering colleges in northern India, was collected via both online and offline questionnaires. Performance evaluation of the models involves metrics such as accuracy, precision, recall, and AUC-ROC curves In contemporary times, a concerning number of teenagers and young adults grapple with depression and anxiety, primarily stemming from mental stress. This study endeavors to unearth the determinants influencing the mental well-being of college students, particularly those enrolled in engineering institutions

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304. EXPERIMENTAL INVESTIGATION AND STUDY ON SALINE WATER TREATMENT IN KANTHADU VILLAGE

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Water is a most essential source in our daily life. each person wants to drink and use clean and health water. but as a person everyone should be the responsible to maintain our water resources in cleanliness way. So here as a responsible person I&m going to present about the problem and toxic substances in drinking water and also the water which was used in common things. Kanthadu is a very beautiful and small village. But they faced a big problem in usage of water. The drinking water was affected by prawn wastes and sea water mixing. So people use the pipe to transfer the water from 2km for their daily use. I want to help and given the solution of their problem. I am going to use seeds and natural fibres to purifying the water to their use.

305. SENTINELGUARD: MACHINE LEARNING AND NLP-DRIVEN SENTIMENT ANALYSIS FOR ONLINE HARASSMENT DETECTION

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Online harassment and hate speech have become ubiquitous, seriously impacting millions of internet users worldwide. This project develops SentinelGuard, an automated system to accurately detect various forms of harassment and hate speech in online text. SentinelGuard employs advanced natural language processing (NLP) techniques such as word embeddings and tokenization, as well as traditional machine learning algorithms like logistic regression and random forests. The system is trained on a large corpus of comments labeled as harassing/non-harassing sourced from various social media sites.Key linguistic features extracted include sentiment polarity, obscenity, threats, identity-based hate, and group targeting. Additionally, user metadata like account age and post frequency are incorporated. The models are rigorously evaluated using cross-validation on metrics like precision, recall, F1-score, and ROC curve analysis. SentinelGuard achieves over 90% accuracy in detecting abusive language across various model configurations. The system provides granular feedback on the type of toxicity detected including hate speech, threats, insults etc. SentinelGuard provides a highly scalable solution to identifying online toxicity to improve community management and user experience. Its sentiment analysis capabilities have promising applications across social networks, gaming platforms, live-streaming, e-commerce sites and other online communities seeking to curb harassment.

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305. EVALUATING THE PERFORMANCE OF INTELLIGENT SURFACE-ASSISTED WIRELESS SYSTEMS THAT ARE RECONFIGURABLE

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Reconfigurable Intelligent Surface (RIS)-assisted wireless systems are thoroughly analyzed in this work together with wireless systems that relay information using Amplify-and-Forward (AF) relaying. Due to its potential to improve wireless communication performance by cleverly altering the propagation environment, RIS is a revolutionary technology that has attracted a lot of attention. Various essential performance indicators, including energy efficiency, outage probability, and spectrum efficiency, are assessed for both RIS-assisted and AF relaying systems through in-depth simulations and theoretical analysis.Variations in the number of reflecting elements, channel conditions, and transmission systems are taken into account in the study. When RIS-assisted systems are placed under similar conditions as AF relaying systems, the results show that they perform better overall, with greater spectral efficiency and lower outage probability. The potential of RIS to provide greener wireless networks is further shown by an investigation into its energy efficiency benefits. Future wireless communication network design and implementation can benefit from this studys insightful analysis of the differences between the performance of RIS and AF relaying systems.

306. SENTINELGUARD: MACHINE LEARNING AND NLP-DRIVEN SENTIMENT ANALYSIS FOR ONLINE HARASSMENT DETECTION

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Online harassment and hate speech have become ubiquitous, seriously impacting millions of internet users worldwide. This project develops SentinelGuard, an automated system to accurately detect various forms of harassment and hate speech in online text. SentinelGuard employs advanced natural language processing (NLP) techniques such as word embeddings and tokenization, as well as traditional machine learning algorithms like logistic regression and random forests. The system is trained on a large corpus of comments labeled as harassing/non-harassing sourced from various social media sites. Key linguistic features extracted include sentiment polarity, obscenity, threats, identity-based hate, and group targeting. Additionally, user metadata like account age and post frequency are incorporated. The models are rigorously evaluated using cross-validation on metrics like precision, recall, F1-score, and ROC curve analysis. SentinelGuard achieves over 90% accuracy in detecting abusive language across various model configurations. The system provides granular feedback on the type of toxicity detected including hate speech, threats, insults etc. SentinelGuard provides a highly scalable solution to identifying online toxicity to improve community management and user experience. Its sentiment analysis capabilities have promising applications across social networks, gaming platforms, live-streaming, e-commerce sites and other online communities seeking to curb harassment.

307. EGG DETECTION AND COUNTING SYSTEM TO PREDICT THE ABNORMALITIES IN EGG-LAYING PATTERNS

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The world’s expanding population is heavily reliant on poultry farming. Poultry products are nutrient-dense foods that help people of all ages in communities all over the world. As human demand for animal proteins grows, the poultry industry must continue to improve its efficiency and product quality. Current poultry farming practices lack an efficient method for monitoring the egg-laying pattern of the hens on a regular basis.Such attention to detail was previously thought to be inaccurate and inefficient on large-scale farms, but with the integration of artificial intelligence (AI)-assisted technology, individualized, and per- batch assessments of livestock became possible and accurate.Several studies have shown that cameras linked to specialized AI systems can accurately count the number of eggs in each cage, improving the egg laying rate and product quality of farmed poultry eggs. This study explores the application of artificial intelligence (AI) to the detection, counting, and tracking of eggs in both commercial and research applications, building on recent developments in this field.

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308. IMPLEMENTATION OF AN UNDERGROUND SUBWAY SYSTEM IN VILLUPURAM (MADHA KOVIL)

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Subway system has many functions such as attracting and distributing passengers and guiding the transfer from various traffic modes to subway. The main aim is to reduce the traffic volume above the ground. Subway is an effective way to relieve traffic pressure and plays an important role in its use. Subway is an underground tube which is used to carry underground roadway and railway systems within urban and suburban areas. To reduce the traffic volume above the ground underground Subway is used to connects many busy places through a common route. The structures have many advantages that are useful in freeway and bridge construction, including structural efficiency, serviceability. The Planning and Construction of such underground Subway is very much important in the modern times. The main aim of the present study is to reduce the traffic volume above the ground and study the structural behaviour of Subway under various loading conditions for the road way system. The structural loads are considered as per Indian Road Congress (IRC). The structural behavior of subway is observed for a load combination as per IRC. In this project, For planning and designing in Auto CAD,3Ds max.

309. IMPACT OF CULTUTRE ON HOUSEHOLD SAVINGS

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Households, the private sector, and the public sector are the three sectors that contribute savings or surplus to the country. In this case, household savings are essential to the nations ability to accumulate capital. There are many numbers of factors, including political, cultural, and economic ones, as well as many more, affect how households save money. India has a rich historical legacy; thus, culture has a big influence on how households save money. The primary cultural elements taken into account in this research include acquisition of wealth, avoiding uncertainty, and long-term orientation. The purpose of this study is to determine which cultural elements have a greater influence on a households saving behavior. The discovered factors assist policymakers in designing new plans that respond to the needs. A total of 351 samples were collected and analyzed using a variety of statistical procedures, including percentage analysis, weighted averages, correlation, ANOVA, and structural equation modelling (SEM), in order to identify these. The data were processed in the Statistical Package for the Social Sciences (SPSS). Recommendations areto be given in accordance with the elements impacting the savings behavior based on the analysis results.

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310. COMPARATIVE ANALYSIS ON THE STRENGTH OF CONCRETE PAVER BLOCKS USING WASTE PLASTIC AND GLASS VIALS

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Waste Glass used in concrete making leads to greener environment. In shops, damaged waste glass & Plastic cuttings are to waste, which are not recycled at present and usually delivered to landfills for disposal. Using Glass powder in concrete is an interesting possibility for economy on waste disposal sites and conservation of environment. This project examines the possibility of using Glass powder and glass pieces as fine aggregate replacement and coarse aggregate replacement in concrete. Natural sand and coarse aggregate partially replaced 5%,10%,15%,20% with Glass powder and glass pieces in concrete. Compressive strength of cubes 3, 7, 28 days of age was compared with those of concrete made with natural sand and coarse aggregate. Using SEM analysis to compared the bond of normal concrete and waste glass concrete

311. CEVI- AN APPLICATION BASED INNOVATION FOR DIGITAL MOBILE AUDIOMETRY

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An audiometer is a machine used for evaluating hearing acuity. They usually consist of an embedded hardware unit connected to a pair of headphones and a test subject feedback button, sometimes controlled by a standard PC. Such systems can also be used with bone vibrators, to test conductive hearing mechanisms. Audiometers are standard equipment at ENT (ear, nose, throat) clinics and in audiology centres. An alternative to hardware audiometers are software audiometers, which are available in many different configurations. Screening PC-based audiometers use a standard computer. Clinical PC-based audiometers are generally more expensive than software audiometers, but are much more accurate and efficient. They are most commonly used in hospitals, audiology centres and research communities. These audiometers are also used to conduct industrial audiometric testing. Our app-based

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audiometry can test a persons hearing level, and it is time-efficient and provides results without the need for doctors or assistant nurses. This app-based audiometry is commonly used in quiet places, but we can take the test anywhere we desire. The test should be silent regardless of the location. The accuracy is influenced not only by the patients hearing capacity but also by the environmental surroundings. The traditional audiometer costs around 1300 to 1800 rupees, but our app-based audiometer is budget-friendly and also the app has some additional features like ENT doctor suggestion when the person is under the normal hearing level or when the person got severely hear loss.

312. DESIGN AND IMPLEMENTATION OF IMAGE EDGE DETECATION ALGORITHM ON FPGA

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The clarity of photos taken by real-time systems for surveillance, object detection, and remote sensing is diminished by hazy weather. The effectiveness of these real-time systems is impacted by this. To address these issues, a real-time haze removal mechanism must be implemented on hardware. This article offers one such solution. This article presents the hardware implementation of an image de-hazing system using saturation. A 15 × 15 window minimum filter is used, which estimates atmospheric light using the down sampled fuzzy image in order to achieve more accurate estimates. Moreover, our method is pixel-based instead of patch-based as we have used saturation-based transmission map estimate. In contrast to current patch-based techniques, the suggested approach suppresses halo artefacts around edges without the need for either an image filtering unit or an edge detecting unit. The suggested de-hazing system has a seven-stage pipelined VLSI architecture. Both FPGA and ASIC (65-nm technology node) platforms are used to implement it. With only 13.2k logic gates, the suggested dephasing systems ASIC implementation can handle 3840 × 2160 resolution at a rate higher than 70 frames per second, with a maximum throughput of 624 Mpixels/s. AZE limits object visibility in the collected image, which negatively impacts real-time computer vision systems; performance. This deterioration in visibility could cause these systems to malfunction unintentionally. The overall performance and resilience of a computer vision system can be enhanced by a real-time dephasing solution, even under cloudy conditions. Nonetheless, the extra real-time dephasing system ought to be economical and shouldnt interfere with the functionality of other subsystems. Such real-time dephasing systems are very difficult to build in VLSI because they include complex mathematical processes and a lot of repetitions that use a lot of hardware resources.

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313. VEHICLE ACCIDENT AND ALCOHOL DETECTION

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One of the basic reasons for road accidents is speed. If emergency services could get accident reports and reach them in time, more lives could have been saved. In saving human lives, the time between the accident and when the ambulance reaches the site of the accident plays an important role. If we reduce the time between when an accident happens and when a medical ambulance is dispatched to the area, we can save human lives by our project that is "Vehicle Accident Alert System Using GPS, GSM, MQ3 and ACCELEROMETER ".GPS has become an integral part of a vehicle system nowadays. The accelerometer senses a sudden shift in the vehicles axles. It will be tested by Arduino. The Arduino sends the warning message via the GSM module to the police control room or a rescue team, including the location.So, after receiving the information, the police can automatically track the location via the GPS module. Then, the appropriate action will be taken after verifying the venue. Additionally, an MQ3 sensor is connected to the Arduino to detect the content of alcohol in the driver's breath. The engine refuses to start if the alcohol is detected by the sensor.

314. FINE-TUNING DISTILBERT TRANSFORMER FOR ENHANCED CYBERBULLYING DETECTION

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The pervasiveness of cyberbullying on social media platforms presents a significant challenge, particularly due to the complexities of language, including the use of sarcasm and irony. These nuances

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can often obfuscate the true sentiment of a message, hindering the effectiveness of traditional sentiment analysis techniques in cyberbullying detection. This paper investigates the efficacy of fine-tuning a DistilBERT transformer model for improved cyberbullying detection on social media platforms. The inherent bidirectionality of the DistilBERT architecture facilitates the capture of intricate contextual information within text, enabling the model to discern the subtle nuances of sarcasm and irony that often confound conventional sentiment analysis approaches. We leverage the TweetEval dataset for irony classification, with the ultimate objective of retraining the DistilBERT model to effectively flag cyberbullying instances. Our preliminary findings indicate an accuracy of 0.63 for the DistilBERT model. This work contributes to the advancement of robust cyberbullying detection methodologies by capitalizing on the strengths of transformer models for comprehensive sentiment analysis within the social media domain. Furthermore, this research paves the way for the exploration of advanced techniques such as ensemble learning or multi-task learning to further enhance the accuracy and generalizability of the model. By addressing the limitations of current sentiment analysis methods, this research has the potential to significantly improve cyberbullying detection on social media platforms, fostering a safer online environment.

315. WEB BASED SMART STAY PG HUB

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SmartStay PG Hub is a comprehensive web-based platform designed to streamline the management of Paying Guest (PG) hostels. This innovative solution offers hostel owners and residents a user-friendly interface to facilitate room booking, room selection, and communication. With features such as online room reservation, room availability tracking, resident profiles, and messaging functionalities, SmartStay PG Hub simplifies the administrative tasks for hostel owners while enhancing the experience for residents. The platform aims to optimize hostel operations, improve resident satisfaction, and foster a seamless living experience in PG accommodations

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316. ENHANCING CONSTRUCTION SITE SAFETY: A DEEP LEARNING APPROACH WITH YOLOV7 FOR AUTOMATED DETECTION OF SAFETY PRODUCTS

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The construction sector is one of the most unpredictable and hazardous industry sectors. Tens of millions of construction industry accidents occur globally causing damage and accidents to employees every year. This industry makes up one of the primary sectors of the workforce and activity in the international market is taken into consideration as a vital element in operating the financial system of the country. Construction sites remain dynamic and complex structures. Nonetheless, a lot of research has been done over the past ten years to present cutting-edge technology for the installation of effective protective systems in the building sector. This project focuses on developing a system using YOLOv7 (You Only Look Once version 7) for the detection of safety products worn by construction workers. The system's objective is to improve worker safety on construction sites by automatically determining if workers are donning gloves, hard helmets, safety vests, and other necessary protective gear.

317. AI-POWERED DRIP IRRIGATION SYSTEM

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This research paper presents an innovative approach to AI-powered drip irrigation systems in agricultural settings, enhancing water management efficiency while accommodating dynamic weather conditions and plant requirements. The system integrates weather forecasting, plant growth prediction, soil moisture sensing, and Wi-Fi connectivity to create a sophisticated irrigation solution. Utilizing advanced AI algorithms, the system optimizes irrigation schedules based on weather forecasts, including factors such as humidity levels and wind force. By analysing forecasted conditions, the system determines appropriate irrigation timing to ensure effective water distribution according to plant needs and environmental factors. Additionally, the system incorporates plant growth prediction algorithms to tailor irrigation schedules to specific plant requirements, promoting optimal growth and yield outcomes. Notably, the system dynamically adjusts irrigation volumes based on predicted weather patterns. For instance, if rain is forecasted within the irrigation period, the system reduces irrigation accordingly,

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accounting for natural precipitation as a water source for plants. The integration of moisture sensors within the soil, enables real-time monitoring of moisture levels. When soil moisture levels reach predetermined thresholds, the system automatically adjusts irrigation flow to prevent overwatering and conserve water resources. Moreover, the incorporation of Wi-Fi connectivity allows for remote monitoring and control of the irrigation system, enhancing accessibility and convenience for farmers. This connectivity enables real-time data transmission, facilitating timely adjustments to irrigation schedules based on evolving weather conditions and plant needs. Overall, the proposed AI-powered drip irrigation system offers a sustainable, efficient, and adaptable solution for agricultural irrigation, maximizing water usage effectiveness while minimizing environmental impact and operational costs.

318. DATA DRIVEN STOCK PREDICTIONS WITH AI

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In the contemporary financial landscape, the intersection of artificial intelligence (AI) and stock market prediction has garnered significant attention. This abstract provides an overview of the methodologies, challenges, and implications associated with data-driven stock predictions utilizing AI techniques. The advent of AI has revolutionized traditional stock market analysis by leveraging vast amounts of data to uncover patterns, trends, and insights that were previously inaccessible. Machine learning algorithms, such as neural networks, support vector machines, and random forests, have become instrumental in processing complex financial data and generating predictive models. These models aim to forecast stock prices, identify investment opportunities, and mitigate risks in an ever-changing market environment. One of the primary methodologies employed in data-driven stock predictions involves the utilization of historical market data, including stock prices, trading volumes, financial statements, and macroeconomic indicators. By analysing historical patterns and correlations, AI algorithms can detect signals indicative of future price movements. However, challenges such as data noise, non-stationarity, and market inefficiencies pose significant hurdles to the accuracy and reliability of predictions. To address these challenges, researchers and practitioners have developed sophisticated AI models capable of capturing nuanced market dynamics. Deep learning architectures, such as recurrent neural networks (RNNs) and convolutional neural networks (CNNs), excel in capturing temporal dependencies and spatial patterns within financial data. Reinforcement learning algorithms, inspired by behavioral economics, optimize trading strategies by learning from interaction with the market environment.

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Despite the advancements in AI-driven stock predictions, several ethical and regulatory considerations warrant attention. The opacity of AI algorithms raises concerns regarding algorithmic bias, market manipulation, andsystemic risks. Additionally, the reliance on historical data may exacerbate market inefficiencies and contribute toherding behavior among investors. Furthermore, the proliferation of AI-powered trading algorithms has sparked debates surrounding market integrity and fairness. High-frequency trading (HFT) strategies, enabled by AI, raise questions about market manipulation and regulatory oversight. The emergence of algorithmic trading platforms, fueled by AI, has transformed market dynamics, prompting regulators to reassess existing frameworks and implement safeguards against systemic risks.Data-driven stock predictions with AI offer unprecedented opportunities for investors, traders, and financial institutions to gain insights and optimize decision-making processes. However, the complexities inherent in financial marketsnecessitate continuous refinement of AI models and vigilant monitoring of their implications. Ethical considerations, regulatory frameworks, and market dynamics should be carefully navigated to harness the transformative potential of AI in stock market prediction while safeguarding market integrity and investor interests.

319. ILLUMINATION MAP ESTIMATION FOR ENHANCEMENT OF LOW LIGHT IMAGES THROUGH CONVNET

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In demanding dimly-lit scenarios, capturing top-tier images remains a hurdle for sophisticated imaging systems. The endeavour addresses the inherent difficulties of enhancing low-light images, encompassing tasks like reducing noise, preventing artifacts, and preserving natural color fidelity. The end result comprises a collection of transformed images boasting heightened luminosity, enhanced clarity, and augmented visual allure, rendering them suitable for various applications ranging from surveillance setups to smart phone photography. The initiative introduces an innovative approach termed Illumination map Estimation, which conceptualizes light enhancement as a process of estimating image-specific curves using a deep network. The approach involves training a compact deep neural network, ConvNet, to anticipate pixel-level and complex curves to finely tune the dynamic range of a provided image. The Illumination curve estimation is meticulously crafted, taking into account factors such as pixel value range, monotonicity, and differentiability. Illumination map Estimation apart is its flexible stance on reference images,which makesit doesnt necessitate any paired or unpaired data during the training phase. This is accomplished through a set of meticulously formulated non-reference loss functions, which implicitly gauge the quality of enhancement and steer the networks learning process.Our approach excels in efficiency as image enhancement is achieved through an intuitive andstraightforward nonlinear curve mapping using ConvNet. Despite its simplicity, we demonstrate its ability to adapt well to various lighting conditions.

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320. GSM AND RFID BASED DIGITALIZED PETROL BUNK

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This paper introduces a fuel-filling system that uses RFID and GSM technologies. Customers are issued a petrol card, similar to a debit card, which simplifies transactions. The system verifies balance availability and automatically fills petrol. It uses an Arduino Uno micro-controller, EM-18 RFID reader, SIM 800LGSM module, 16x2 LCD, pump motor, and motor driver. It has four primary operations: recharge, balance check, fuel filling, and update. The recharge operation allows users to top up their cards, while the balance check operation monitors card balance. The system enhances efficiency and convenience in fuel-filling processes at petrol stations.

321. TRANSFORMING CUSTOMER JOURNEYS IN SHOPPING MALLS USING K-MEANS ALGORITHM

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Presently, there is a lot of competition among businesses for consumers attention and loyalty due to the proliferation of new entrepreneurs. Therefore, it is appropriate for businesses of all sizes to provide outstanding customer service. More so, in order to provide focused customer services and create personalised customer care plans, it is essential for every firm to have the capacity to comprehend the requirements of each consumer. Customer service that is organised allows for this comprehension. People that shop in each category tend to have similar tastes and preferences. More and more people are opting to use automatic methods for bespoke segmentation, thanks to machine learning. To divide up the target audience into distinct groups according to shared characteristics of the target market, this

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project use the k-means clustering method. Customer segmentation refers to the process of collecting customer data and separating it into groups of persons who have common characteristics. This segmentation allows marketers to zero in on certain customer segments, increasing the likelihood that an individual will buy a product. It paves the way for businesses to establish and make use of explicit communication channels to engage with a wide range of consumers about their goods. A simple concept would be for companies to target younger audiences via social media postings and older audiences through radio ads. This aids the businesses in developing stronger relationships with their clients and improving their overall image as an association.

322. A STUDY ON BEHAVIOURAL BIASES INFLUENCING INVESTMENT DECISIONS OF INVESTORS OF INDIAN STOCK EXCHANGES

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This study focuses on behavioural biases influencing investment decisions. Among several biases, the study mainly takes into account of biases such as herding, disposition effect, and overconfidence and that it aims to observe the impact of such biases on investment decisions of investors among Indian Stock Exchanges. A quantitative approach was followed by collecting data using questionnaires and responses were collected from 350 respondents who invest in shares and mutual funds of Indian Stock Exchanges. The study concludes that behavioural biases such as herding, disposition effect and overconfidence influence investment decisions of investors of Indian Stock Exchanges andthat herding bias strongly influence investment decisions.

323. A POLYAMIDE BASED FLEXIBLE ANTENNA FOR WEARABLE APPLICATION

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A flexible polyamide substrate with a 1 mm thickness is intended for use with the 42*43.5 mm wearable patch antenna. With an 8.5 dB gain and a frequency of 2.45 GHz, this antenna is ideal for a wide range

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of wireless communication applications. Because of its flexible polyamide substrate, the antenna is perfect for integration into wearable technology like health monitoring systems and smart clothes. Its lightweight construction and small size make it suitable for wearable applications where weight and space limitations are important considerations. The antenna minimizes interference with neighboring components while providing dependable wireless connectivity because to its small form factor and efficient radiation qualities. All things considered, the wearable patch antenna is a viable approach to incorporating wireless communication features into wearable technology, allowing for seamless connectivity in a variety of settings without sacrificing comfort or performance.

324. AN ENSEMBLE METHOD COMBINING DEEP LEARNING AND MACHINE LEARNING

METHODS FOR DETERMINING THE TYPE OF MELANOMA

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The four main types of epidermal malignancies are typically melanoma, basal cell carcinoma, squamous cell carcinoma, and Merkel cell carcinoma. Melanoma is a kind of cutaneous cancer that impacts a greater number of individuals than other cancer types. Early detection and diagnosis of this type of cancer may reduce the chance that it will move to a different area of the body where it can be successfully managed and eliminated. The development of methods based on deep learning and machine learning has led to the creation of an effective automated diagnostic platform which may help doctors forecast diseases much more quickly and help patients detect them with skill. The current algorithms either use approaches based on deep learning that extract characteristics from whole pictures or neural network models that are restricted to feature extraction. For the extraction and identification of features, the suggested ensemble pre-trained convolutional neural network and artificial intelligence processors are employed. The precision of the prediction is increased by this sort of strategy. In this instance, the hybrid VGG16 and KNN are employed to extract features and serve as a classifier. This combination achieves an ultimate precision of 99.74%, surpassing that of previous studies included in the analysis of the literature.

325. VIDEO SUMMARIZATION USING DEEP LEARNING

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Video summarization aims to create informative and compact summaries from long videos to enable efficient browsing and understanding. While supervised deep learning methods have shown promise by learning from human-created summaries, existing approaches have limitations in modelling long-range temporal dependencies across frames and identifying spatially salient regions within frames. To address these limitations, we propose a novel Spatiotem-poral Vision Transformer (STVT) for video summarization. The STVT contains two key components:

1) A Temporal Inter-Frame Attention (TIA) encoder that ana-lyzes relationships between video frames over time. By attendingto frames across the entire video, TIA helps identify important events and activities that span multiple frames.

2) A Spatial Intra-Frame Attention (SIA) encoder that focuses on salient regions within each frame by attending to spatial locations. This allows identifying key objects and actions in each frame to be included in the summary.By combining inter-frame temporal modeling and intra-frame spatial modeling, the proposed STVT effectively identifies infor-mative events and objects in videos for summarization. We eval-uate STVT extensively on two challenging benchmark datasets for video summarization. Results demonstrate that STVT sub-stantially outperforms current state-of-the-art approaches.Specifically, STVT improves summarization performance. The significant gains show the promise of using attention-based transformers for learning to create useful video summaries from human annotations. By jointly attending to temporal dynamics across frames and spatial regions within frames, the proposed STVT takes a major step toward high-quality video summariza-tion.

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326. AN EFFICIENT STEGANOGRAPHIC TECHNINIQUE FOR HIDING DATA IN IMAGES AND VIDEOS

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Information communication is now easier thanks to the growth of high-speed computer networks and the Internet.Digital media, on the other hand, has a number of benefits over analogue media, including excellent quality, easy editing, high loyalty copying, and authenticity. However, this kind of advancement in data communication has made people more wary of passing data from the originator to the recipient covertly. Information security is thus the primary issue with data communication. In the realm of information security, steganography is crucial. Images and videos are frequently used to conceal data. The right pixels in the video frames, which are used to contain the secret data, must be chosen carefully for the embedding procedure to be successful. Because video based steganography requires a lot of memory and space, we employ it.We utilize the least significant bit (LSB) insertion technique to conceal information in a carrier file. The Least Significant Bit (LSB) insertion technique modifies the video files LSB with the information bits to conceal information. This study will concentrate on using LSB substitution to conceal information in particular video frames and frame locations.

327. ENHANCING CRIME INVESTIGATION WITH AI: IMAGE PROCESSING FOR LIE DETECTION

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This paper presents a novel approach to enhancing crime investigation through the integration of artificial intelligence (AI) and image processing techniques for lie detection, specifically focusing on physiological indicators linked to myocardial infarction (MI). Micro-expressions (MEs) are uncontrolled facial gestures that expose individuals concealed emotions during critical moments, proving invaluable across diverse fields.[1] Building upon previous research, which suggests that

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dishonest behaviour induces physiological changes akin to stress responses observed in MI, our study utilizes Support Vector Machines (SVM) and Logistic Regression (LR) to explore this concept further. We analyze electrocardiogram (ECG) signal characteristics, such as heart rate variability, QT interval, and ST-segment abnormalities, within a dataset to discern patterns indicative of deception. The effectiveness of SVM and LR in distinguishing between deceptive claims and honest statements is demonstrated, highlighting promising accuracy rates. By incorporating cardiovascular health indicators into the lie detection process, this study advances our understanding of the complex relationship between deceitful behavior and physiological reactions, thereby facilitating more accurate detection of deception within crime investigation. The deep learning architecture used for lying detection and its training methodology, including data augmentation techniques and hyperparameter tuning, may be described.[2]

328. EFFICIENT DESIGN OF COPLANERBOW-TIE ANTENNA FOR SUPER WIDE BAND WIRELSS SENSORNETWORKS

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A Coplanar waveguide-fed bow-tie antenna is designed for wireless sensor networks. It is designed in a compact size of 0.25λ× 0.20λ at the frequency of 3.035 GHz which is the lowest frequency of operating band. The frequency range comes in S band. It provides high efficiency and moderate gain. It provides a wide operating bandwidth, small phasedistortion, minimal signal degradation and better signal integrity during transmission. The project aims to optimize the design of a coplanarwaveguide bow-tie antenna for application in super wideband wireless sensor networks. The focus lies in enhancing the antennas efficiency and performance parameters to cater to the demands of modern wireless communication systems. Through careful analysis and design modifications, the goal is to achieve broader frequency coverage, improved bandwidth, and enhanced signal transmission capabilities. The research intends to contribute to the advancement of wireless sensor networks by developing an efficient antenna system suitable for diverse applications.

329. IT'S MY FOOD

(Food Recognition and Calorie Estimation using image Processing)

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With today's fast paced lifestyle people are more concerned with their health and pay great importance to it. They place a great deal of importance to the food they eat. But just limited eating does not mean that we are eating less amount. It is possible for even a small amount of food to have large amount of calories. Hence it is crucial for people to know how much they eat more than what they eat. Here a calorie estimation plays an important role that helps people in knowing their food. Our system employs image processing tools which include deep learning and classification algorithms such as CNN and LSTM. This combined approach makes the detection method more enhanced and stronger.

330. EFFICIENT ARRHYTHMIA CLASSIFICATION USING SPECTROGRAM BASED DEEP CNN

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The detection of arrhythmia timely and precisely is important for reduction of mortality rate due to various cardiovascular diseases. Manual screening of arrhythmia is time consuming and it may lead to false diagnosis. Currently, many research works are ongoing on the detection of arrhythmia using various machine learning and deep learning techniques. These researches may lead to improve the diagnosis of arrhythmia. Initially the ECG signals are divided into 2 parts: testing and training. Further the ECG signals are pre-processed for denoising. The process is carried on by conversion of signals into images using spectrogram method for 2D CNN model. Our work focuses on building a Convolutional Neural Network for arrhythmia prediction using PTB dataset and optimizing it for better accuracy, sensitivity and specificity. The model is optimized using Adam's algorithm which provides us with 95.6% accuracy.

331. AUTOMATIC ROAD DAMAGE DETECTION SYSTEM AND LOCATION INDICATOR TO GOVERNMENT PORTAL FOR IMMEDIATE MAINTENANCE

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Due to the impact of road -usage, vehicle overload, road construction, and bad weather, there are lots of roads in bad conditions in many large- and medium-sized cities. Consequencesof road damage include reduced driving speed, decreased load capacity, increased fuel consumption, and compromised traffic safety and environmental protection. Regular maintenance and repair activities are necessary to maintain a good working conditions on the pavement. This project introduces an innovative approach to infrastructure maintenance, focusing on timely detection and repair of road damage for enhanced road safety and traffic flow. Employing a multi-stage system, high-resolution cameras strategically

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placed on roadways facilitate real-time data collection. The core of the proposed solution lies in deep learning model training, specifically Convolutional Neural Networks, for accurate identification of road damage. Real-time video analysis using computer vision techniques ensures immediate detection of damage instances in live feeds. The system generates automatic alerts with detailed information on identified damage, transmitting them to a government portal. This portal enables authorities to access and assess real-time damage data, facilitating efficient maintenance prioritization and assignment based on severity and location. By proactively addressing road damage incidents, this comprehensive system aims to revolutionize the way road maintenance is approached, ultimately contributing to safer and more efficiently managed roadways.

332. DENSITY FUNCTIONAL THEORY (DFT) STUDY ON DOPED TUNGSTEN DISELENIDE (WSe2) AS SENSING MATERIAL

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This work uses Density Functional Theory (DFT) to evaluate the potential of Tungsten diselenide (WSe2) doped with arsenic (As), phosphorus (P), and bismuth (Bi) in sensing propanol, hexanol, and nonane.WSe2 monolayers doped with X (As,P,Bi) combine the best features of both materials, making them ideal for sensing applications. Computational methods such as BURAI and Quantum Espresso are utilized to evaluate the electronic behaviour and bonding features of propanol, hexanol, and nonane on As-WSe2, P-WSe2, and Bi-WSe2 by performing DOS, total energy, and Fermi energy calculations.We found that the fermi energies for Propanol-As-WSe2,Heptanol-P-WSe2,Propanol-Bi-WSe2, and Nonane-P-WSe2 are 1.4eV,0.81eV,2eV, and 0.56eV, respectively.Our findings add to our understanding of using doped WSe2 for diverse sensing applications, paving the path for a potential new method to gas sensing.

333. SOLAR-POWERED BATTERY-OPERATED ELECTRIC WEED ELIMINATOR

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The Solar-Based Electric Weeder represents a pioneering advancement in the realm of weed management, leveraging solar energy to revolutionize traditional agricultural practices and extend its utility beyond conventional boundaries. This innovative device harnesses solar power through cutting-edge photovoltaic panels, propelling an electric weeding mechanism with versatile applications across various sectors including agriculture, urban landscaping, and forestry. By eschewing reliance on conventional fuel sources, the Solar-Based Electric Weeder ensures efficient and precise weed removal while significantly reducing operational costs. This aligns perfectly with the global momentum towards sustainable technologies, simultaneously enhancing mobility and ease of use across diverse environments. In urban settings particularly, this technology proves indispensable for maintaining green spaces without resorting to harmful herbicides, thereby promoting healthier ecosystems. Its multifaceted functionality signifies a notable stride towards a cleaner, more eco-conscious future in weed management. This abstract encapsulates the transformative potential of the Solar-Based Electric Weeder, marking a significant leap towards sustainable weed management practices that prioritize environmental stewardship and efficiency.

334. A NOVEL APPROACH FOR DEPRESSION DETECTION USING HYBRID DEEP LEARNING MODEL

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In this day and age, psychological wellness sickness have become profoundly pervasive, and misery is one of the emotional well-being issuesIt has expanded in scope. Depression is the second most common cause of illness burden globally, according to WHO data. Depression is not the same as normal mood swings or feelings related to day-to-day living. It may have an impact on ones life and connections with family, friends, and the community. As a result a user mental health and emotional state can be discussed on social media.This study proposes a novel method for detecting depression by integrating Convolutional Neural Networks(CNN) and LSTM.. The hybrid deep learning model aims to enhance accuracy in identifying depressive symptoms by leveraging both spatial features learned by CNN and

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LSTM. Results suggest the potential effectiveness of this approach in advancing depression detection methodologies.

335. CARDIOGAZE: HEART RATE VARIABILITY MONITORING ON MOBILE DEVICES

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Heart disease can be readily prevented if therapy is started early enough. Heart disease is becoming a highly frequent and serious illness. As a result, everyday cardiac health monitoring has gained significance. Most current mobile cardiac monitoring devices rely on either photoplethysmography (PPG) or seismography (SCG) techniques for heart rate monitoring. Unfortunately, these techniques have limitations and require additional equipment, which hinders patients from monitoring their hearts continuously in any location. We suggest exploiting the pupillary response when a user unlocks their phone using face recognition to estimate the users HRV during this period, enabling cardiac monitoring, motivated by our finding of the association between pupil size and HRV. To achieve this, we propose a mobile system called CardioGaze, which utilizes computer vision technology for monitoring HRV. CardioGaze consists of a mobile device and a server-side. On the mobile terminal, CardioGaze collects pupil size change information from users when unlocking their phones through the facing camera.

336. MALARIA DETECTION USING MULTI MODEL ALGORITHMS

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Malaria is a major global health concern, services, novel for malaria detection using a combination of multiple machine learning algorithms. By leveraging the strengths of algorithms, the proposed multi-model approach aims to improve reliability. The method first preprocess the dataset to extract relevant features and then apply different machine learning to classify malaria-infected and uninfected blood samples. The proposed multi-model approach demonstrates sensitivity, specificity, overall performance compared to traditional single-model methods. The findings suggest that integrating multiple algorithms can enhance the efficiency and robustness of malaria detection systems, laying the foundation for more reliable and accurate diagnostic tools in the fight against this deadly disease.

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337. SENTIMENT ANALYSIS IN ADVERTISEMENTS: UNCOVERING CUSTOMER PREFERENCES

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Understanding consumer sentiment towards advertisements is pivotal in the advertising industry. This project introduces a comprehensive sentiment analysis framework for ads, aimed at uncovering customer preferences. Leveraging a suite of Machine learning algorithms such as Naive Bayes, Support Vector Machines (SVM), Extreme Gradient Boosting (XGBoost) , Deep Neural Networks (DNN), Convolutional Neural Networks (CNN) and Recurrent Neural Networks (RNN), this study delves into the sentiment analysis of ad topics. Through meticulous preprocessing of textual data and the application of sentiment analysis using Text Blob, ads are categorized into positive, negative, or neutral sentiments. The analysis further explores the correlation between sentiment and ad clicks, shedding light on consumer behaviour. Findings reveal insights into the efficacy of different ads based on sentiment and their respective click-through rates. Additionally, optimization techniques are applied to XGBoost and CNN classifiers, as they showed superior performance across other algorithms. The optimized CNN classifier demonstrates better performance over the optimized XGBoost. This project emphasizes the critical role of sentiment analysis in advertising and showcases how machine learning methodologies effectively discern customer preferences.

338. AUTONOMOUS DRIVING USING REINFORCEMENT LEARNING

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Reinforcement learning (RL) is making a significant impact on autonomous vehicles, offering a novelapproach to train driving policies through interaction with the environment. This method departs from traditional techniques that rely on pre-programmed rules and vast amounts of labeled data. Instead, RL allows autonomous vehicles to learn optimal driving behaviors by trial and error, aiming toachieve the best possible outcomes in the long run. This paper delves into how RL is being used in autonomous driving. Well explore the key elements, challenges, and recent advancements in this field. Well discuss

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how the driving task can be framed as a Markov Decision Process (MDP), how reward functions are designed, and how RL-based driving systems balance exploration (trying new things) with exploitation (using proven strategies). Additionally, we ll examine how RL can be combined with other techniques, such as imitation learning and domain adaptation, to improve the robustness and ability of autonomous vehicles to handle diverse situations. Furthermore, the paper will address safety considerations, regulatory hurdles, and ethical issues surrounding the deployment of RL-based autonomous driving systems in the real world. Finally, well explore promising areas for future research and potential applications of RL in pushing the boundaries of autonomous driving technology.

339. MACHINE LEARNING BASED DETECTION OF PHISHING URL AND WEBSITES WITH ACCURACY CALCULATION

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This paper provides a thorough analysis based on a research that uses machine learning approaches to identify phishing URLs and websites. It explores the dataset analysis, feature selection, ML algorithms used, project approach, and above all the precision of these techniques. This study emphasizes the projects contributions to the field, analyzes problems faced, and explores the consequences of accuracy rates in phishing detection through a thorough investigation and comparison with previous research. Additionally, we offer insights into the effectiveness of various ML algorithms, discussing their accuracy rates and potential for real-world application.

340. INTELLIGENT FRAUD DETECTION IN ONLINE CREDIT CARD TRANSACTIONS

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Credit card fraud is the illicit act of misleading someone who is the legitimate credit card holder. The rise of e-commerce and other online payment methods has led to an increase in fraud risk. Increase in fraud rates, researchers started using different machine learning methods to detect and analyse frauds in online transactions. Machine learning techniques can assist in detecting and stopping these fraudulent transactions. Experimental studies have shown that the random forest algorithm provides good results in detecting credit card fraud. To develop a model that forecasts whether a transaction will be fraudulent or not. Several predictive models, including Decision Trees, K-neighbours, SVM's, ANN's, Gaussian Naïve Bayes, and Logistic Regression are employed. In order to analyse past transaction details and extract behavioural patterns, wherein cardholders are clustered into different groups based on transaction amount, the primary goal of the paper is to design and develop a novel fraud detection system for streaming transaction data. This system comprises of effective credit card transaction methodology, which makes a transaction secure by matching uniquely generated tokens that protect sensitive data during online transactions.

341. DETECTION AND CLASSIFICATION OF ARRHYTHMIA IN ECG SIGNAL USING BAGGING TREE CLASSIFIER

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Electrocardiogram (ECG) analysis plays a crucial role in diagnosing cardiac arrhythmias. This work explores the utilization of a Bagging Tree Classifier-based deep learning framework for automated arrhythmia detection and classification. Unlike conventional back propagation methods, the proposed approach leverages Bagging Tree Classifier for feature extraction and classification. The framework is trained on a diverse dataset and adapted to ECG data to classify patient ECGs into distinct cardiac conditions. Three ECG waveform conditions from the MIT-BIH arrhythmia database are selected for evaluation. The primary objective is to establish a simple, robust, and readily deployable deep learning methodology for classifying these cardiac conditions accurately. Results showcase the effectiveness of

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the Bagging Tree Classifier in achieving high-performance rates for arrhythmia detection and classification.

342. SEMANTIC THREADS ENABLING IMAGE- TEXT RETRIEVAL VIA VQA TRANSFORMERS

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The integration of vision and language has propelled the advancement of artificial intelligence systems. Visual Question Answering (VQA) stands at the nexus of computer vision and natural language processing, enabling machines to comprehend and respond to image-related queries. This paper introduces anovel VQA approach harnessing the capabilities of the BLIP (Bootstrapping Language Image Pretrained) model, a transformer-based architecture esteemed for its natural language understanding prowess. The methodology involves image preprocessing and question translation into a standardized language for efficient processing by BLIP. Mainly, the study integrates multilingual support into the VQA framework, facilitating seamless interaction with users across diverse linguistic backgrounds. Through rigorous experimentation, this paper demonstrates the effectiveness of our approach in accurately answering questions in various languages. These findings underscore the robustness and adaptability of the BLIP model in handling multilingual inputs, thereby enhancing accessibility and usability in real-world applications. This research contributes to advancing the state-of-the-art in VQA systems by addressing language barriers and promoting inclusivity in human-machine interaction.

343. SMART POLES FOR ACCIDENT PREVENTION AND DETECTION SYSTEM USING IOT

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In the struggle to improve road safety and reduce overall traffic accident damage, this project proposes a unique accident detection and prevention systems. With the help of a system composed of a complete set of components, including Arduino Uno, Node MCU ESP32, GPS module, camera module, two ultrasonic sensors, LED, resistances, and wires, it is possible to detect the oncoming cars in a short time and warn the driver about traffic from the approaching cars in front of the direction of traffic. In line with that, the system is programmed to notify police with quick hospital futures which are sent to the proper authority fast in case of an accident. Highly efficient use of AI technology is witnessed where accident severity is calculated and the presence of victims is also explained. The result is better allocation of resources and easy assistance of any emergency. A GPS unit is integrated into the solution that provides for the accuracy of geolocation tracking, thus, upon reporting an incident or any hazards on the road network, the authorities can precisely pinpoint the exact location of the accidents quickly. This project intends to realize a system that uses advanced technology like AI and big data to detect accidents ahead of time through efficient road sensors, enhance response to emergencies by using advanced technology like AI and effectively make transportation systems more efficient and effective.

344. EXPLORING THE SKIES AND THE DEPTHS: A COMPARATIVE STUDY OF UAV CONFIGURATIONS AND UNDERGROUND EXPLORATION ROBOTS

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This paper presents a comprehensive review on ground and aerial robots and explains about UAV's as well and its types which is used for various purposes such as surveillance, photography, path planning, rescue operations etc. and also on various robots designed for exploring underground surfaces. The study focuses on various configurations present on the UAV also the recent and most used configuration based on their capabilities and also briefs about what made these UAV's to constantly upgrade from the existing designs and why would the UAV have different configurations for different tasks and purposes. It also explains about various robots such as the UX-1, Mole-bot, Burrowing Soft Robot, Julius, NeBula-Husky. The paper discusses the technology behind each robot, their use cases, features, and what makes them unique. It also critically discusses the advantages and disadvantages of each of these vehicle types and its configuration.

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345. PREDICTING THYROID DISEASE USING MACHINE LEARNING TECHNIQUES

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Machine learning based classification has a substantial effect on the medical sector as diagnosing a patient's health condition, providing early diagnosis and treatment of the illness with proper care is a demanding task. Usually, thyroid diagnosis involves multiple consultations and various blood tests. If we can detect the disease with a high accuracy in its early stages, it will be beneficial for the patient and doctor. Models such as Random Forest, Support Vector Machine and K-Nearest Neighbour are used to detect the presence of this disease. After the models are trained and tested, an accuracy is given, which is then optimized using an optimization technique called Bayesian Optimization with Gaussian Process. Based on the performance and how accurate these models are after optimization, the model that gives the highest accuracy is selected.

346. EXPLORING VEHICLE TO VEHICLE COMMUNICATION FOR COLLISION AVOIDANCE TO ENHANCE ROAD SAFETY

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The prevalence of collisions on roadways due to factors such as insufficient information during overtaking manoeuvres and inadequate braking strategies underscores the urgent need for advanced automotive safety systems. In response, this paper presents an innovative solution aimed at addressing these challenges. By integrating a V2V Communication System with Wi-Fi technology, coupled with Overtaking Indication and Dynamic Carburettor Fuel-IN Control modules, the proposed system aims to enhance road safety significantly. Through real-time data exchange between vehicles, drivers gain access to critical information, empowering them to make informed decisions and prevent collisions during overtaking and braking scenarios. Additionally, the system dynamically adjusts fuel intake based on traffic conditions, optimizing efficiency while minimizing the risk of accidents. Moreover, the integration of ECUs such as ABS, BMS, and Dashboard via the CAN protocol ensures comprehensive vehicle management and control. This holistic approach to automotive safety represents a significant advancement in the field, promising practical implementation and widespread adoption, thereby contributing to the overall enhancement of road safety standards.

347. NEUROFISH – UNLEASHING CNN FOR FISH DETECTION AND SPECIES RECOGNITION

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Fish detection and species recognition are pivotal in numerous fields, including aquatic research, fish farming, biodiversity monitoring, and conservation efforts. These tasks are crucial for understanding aquatic ecosystem dynamics, managing fish populations, and addressing environmental challenges. Traditionally, these tasks have been labor-intensive and time-consuming, relying on manual observation and data collection. However, technological advancements have introduced new methodologies to improve the precision and efficiency of detecting fish and recognizing their species.Techniques like Convolutional Neural Networks (CNNs), Generative Adversarial Networks (GANs),and Ensemble Learning have shown significant potential in improving these processes. By incorporating GANs into our framework, we aim to address the challenges posed by underwater imagery. GANs enable the generation of synthetic fish images, thereby augmenting the training data and enhancing the adaptability of detection models to environmental variations. Convolutional Neural Networks (CNNs) offer a promising approach for leveraging spatial relationships among fish instances and contextual cues from the surrounding underwater environment. This capability facilitates more accurate species recognition,

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even in complex underwater conditions. Furthermore, Ensemble Learning methodologies, which combine predictions from multiple base models, significantly improve the overall performance and adaptability of fish detection systems. By utilizing the strengths of various algorithms, ensemble techniques achieve superior accuracy and resilience to disturbances and uncertainties. The integration of these advanced techniques into aquatic research and conservation has the ability to revolutionize monitoring and management of fish populations, ultimately contributing to the sustainable management of aquatic ecosystems.

348. FRAUD DETECTION IN E-COMMERCE TRANSACTIONS USING MACHINE LEARNING TECHNIQUES

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Fraud poses a significant threat across various sectors, with the e-commerce industry being particularly vulnerable. Companies facilitating online payments gather extensive data on user transactions, leveraging machine learning techniques to differentiate between legitimate and fraudulent activities. To enhance expertise in fraud detection, machine learning methods are employed to identify online payment fraud within e-commerce transactions. The dataset, structured at the transaction level, is analyzed to uncover patterns distinguishing fraudulent behavior from normal transactions. Feature engineering, such as incorporating user-level statistics like mean and standard deviation, aids in pattern recognition—a common practice in models like LGBMs (Light Gradient Boosting Machines). Detecting fraud presents a challenge due to the imbalance between fraudulent and non-fraudulent data. The performance of the model is evaluated using the metrics such as accuracy and F1 score. The current system employs Bayesian optimization techniques to refine LGBM and XGBoost models. The proposed

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model aims to identify consumer fraud by analyzing purchasingpatterns and historical data using machine learning methodologies, specifically adopting a classification approach. Tree-based methods, including tree-based bagging and boosting techniques such as LGBM, XGBoost, CatBoost, and deep learning, are utilized. The Synthetic Minority Over-sampling TEchnique (SMOTE) is used to balance the imbalanced data. The primary aim is to create a reliable fraud detection system that is suited to the e-commerce environment.

349. A UNIFIED METERING FOR WATER AND ENERGY IN SMART CITIES USING WIFI MODULE

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The smart city initiatives in India, the efficacy of managing household water and energy systems hinges on accurate meter readings, a task traditionally burdened by cost and time constraints due to the sheer volume of users and the absence of daily usage analysis, leading to customer dissatis-faction. To address this issue, a pioneering solution emerges in the form of an integrated wireless smart energy and water metering system harnessing cutting-edge smart metering technol- ogy. This system presents a potential paradigm shift in utilities'approach to energy and water management, supplanting out-dated mechanical water meters and conventional digital energy meters with automatic meter readings devoid of recurrent site visits. The proposed system, underpinned by Wi-Fi technol-ogy renowned for its low power consumption, cost efficiency,extensive coverage, and penetrative capabilities, facilitates thetransmission of precise and secure real-time data on water and energy consumption. Leveraging a water flow sensor and PZEM-004T for instantaneous readings, the integrated metering system achieves interoperability through iterative refinement,culminating in successful communication between energy and water flow meters and the accrual of accurate readings. Em-powering utility providers with real-time consumption statistics and remote system control, this solution also furnishes users with vital consumption data, averting overload scenarios and detecting electricity theft, thereby remedying shortcomings and design challenges inherent in traditional metering systems.

350.COST-EFFECTIVE RESUSCITATION DEVICE WITH REAL-TIME HEALTH MONITORING CAPABILITIES

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Cost-Effective Resuscitation Device with Real-Time Health Monitoring Capabilities" offers the first solution to provide a critical, accessible and safe respiratory support system during emergencies such as the COVID-19 pandemic. Using NodeMCU technology, our model offers an innovative mechanism based on a pneumatic motor, providing precise control over ventilation parameters. With toggle switches and variable poten-tiometers, adjustments can be made to individual patient needs, increasing ventilation efficiency. The resuscitator bag integrates sensors to monitor blood oxygen levels and

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breathing pulmonary pressure, with real-time data displayed on a small screen. The emergency buzzer warns health care workers immediately of any disturbance. In particular, our system allows doctors and relatives to monitor the patient's condition in real time, reducing the need for constant physical presence. Using the NodeMCU as the central controller, our low-cost automated resuscitato case provides a cost-effective solution for resource-constrained settings without compromising performance or reliability. This article represents an important step in democratizing life-saving respiratory support, improving patient outcomes, and improving healthcare resilience in a crisis.

351. HYBRID CNN-LSTM MODEL FOR THE CLASSIFICATION OF WIRELESS CAPSULE ENDOSCOPY IMAGES FOR BLEEDING OR NORMAL DIAGNOSIS

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The non-invasive nature of Wireless Capsule Endoscopy (the WCE) along with its high-definition imaging capabilities make it an essential diagnostic procedure for gastrointestinal illnesses.Wireless capsule endoscopy is considered a non-invasive method. It involves swallowing a small capsule containing a camera and other components, which then travels through the gastrointestinal tract, capturing images along the way.Since the capsule is ingested orally and does not require the insertion of instruments or devices into the body through incisions, it is classified as a non-invasive procedure. This approach eliminates the need for sedation and reduces discomfort compared to traditional endoscopic procedures, which involve the insertion of a flexible tube (endoscope) through the mouth or anus.However, the large amount of data generated presents challenges in analysis and interpretation. Healthcare practitioners rely on automated segmentation of WCE images into clinically relevant categories, such as detecting bleeding, for prompt diagnosis and treatment. In order to categorize WCE images into two groups—bleeding and normal—this study presents a hybrid model that combines the CNN and LSTM (Long Short-Term Memory) architectures. The CNN component extracts spatial correlations within images,while the LSTM component handles temporal dynamics. Using transfer learning techniques, the model is trained on a huge dataset of annotated WCE photos. Extensive testing on a diverse dataset of WCE images from various gastrointestinal patients demonstrates that the hybrid CNN-LSTM model outperforms standalone CNN or LSTM models in classification accuracy. This approach is resilient against common illumination and image quality variations in clinical environments.

352. AUTONOMOUS DIABETIC RETINOPATHY SCREENING DEVICE FOR PREDICTION AND CLASSIFICATION

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Diabetes is a disease that occurs due to poor nutrition and a huge intake of carbohydrates and sugar products. Diabetic retinopathy is a complication and consequence in the eyes due to high blood sugar levels.It creates wounds and some nerve damage behind the retina and it majorly affects vision and potentially results in blindness. Diabetic retinopathy has been classified into four stages based on the severity of the condition. Image processing techniques are used to identify the current scenario of the eye nervous system.Deep learning algorithms are used to enhance image classification and disease identification accuracy. This algorithm deployed microcontroller has been biased with the real-time camera module to identify the current stage of diabetic retinopathy. The current condition of eye nerves diagnoses and deliberates medical suggestions for the patients. A machine learning algorithm is used to verify the various parameters of diabetic retinopathy. This diabetic analysis helps to identify and prevent vision loss and blindness in an effective manner. Cost effective embedded device to classify the Diabetic retinopathy levels and provides clinical support to assist doctors.

353. EXPLORING THE RESNET MODELS ACCURACY IN PREDICTING COTTON LEAF DISEASES: AN INNOVATIVE PERSPECTIVE

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Cotton, a vital global crop, is facing substantial problems from multiple diseases that affect both productivity and quality, compounding farmer misery due to limited access to timely disease information, data collection difficulties, and complications in interpreting environmental variables. To

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address these concerns fully, a program uses modern methodologies to collect extensive environmental, soil, and crop health data, as well as historical disease records. A deep learning-based technique to forecasting cotton leaf diseases that uses cutting-edge technology such as image recognition and data collection to improve forecast accuracy. Key features for disease prediction are found, and deep neural networks such as ResNet, VGG, and Inception-v3 are created and improved [1]. The approach consists of an easy-to-use web application that gives real-time disease predictions, actionable insights, preventive measures, and information about nearby agricultural enterprises. The system intends to empower farmers with correct information by combining modern technology and user-friendly interfaces, supporting sustainable cotton farming techniques, and alleviating farmer distress.

354. A DEEP LEARNING BASED APPROACH FOR REMOTE ACCIDENT DETECTION

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With 1.19 million fatalities and 20 to 50 million non-fatal injuries occurring annually due to road accidents, the imperative for advanced accident detection methodologies cannot be overstated. This research focuses on leveraging deep learning techniques for remote accident detection. The proposed approach entails training a deep learning-based object detection model on image data. A key aspect of this study involves the meticulous creation of a custom dataset, achieved through rigorous data pre-processing and augmentation techniques. Experimental results, following hyperparameter tuning, demonstrate compelling performance, with the object detection model achieving a competitive mean Average Precision (mAP) ranging between 82% and 87%.Notably, among the YOLOv8 family of models, one emerges as the top performer. These findings not only underscore themodels adeptness but also significantly contribute to the advancement of robust accident detection systems. This progress holds immense promise for enhancing road safety and mitigating the global impact of road accidents.

355. SAFEMINE: LABVIEW-DRIVEN REAL-TIME HEALTH MONITORING FOR ADVANCED MINING SAFETY

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Coal mining is one of the most hazardous activities in the world. They frequently encountered unexpected emergencies. Mining workers faces the risks of cave-ins, explosions, gas leaks, and other accidents.Ensuring the safety of mining workers remains a significant concern. To overcome these situations, our project aims to design a monitoring system for analysing the health conditions of the mining workers in the LabVIEW environment. The proposed system provides the health conditions of the workers and give alert signals to the control center about the risk. The different types of sensors are used like heart rate sensor for measuring pulses of the workers, Gas Sensor for measuring toxic gases around the surroundings of workers and temperature sensors. The sensors data are received by microcontroller hardware and then integrated with LabVIEW environment to monitor the health conditions of workers.The proposed method allows the control unit to monitor the mining workers health conditions at any time using the consumer id. Also, if any abnormalities in workers' health is found ie., sudden change in heartbeat, heart panic, oxygen level and temperature, alerts message given to control unit. This is the proposed method used for monitoring the health conditions of the mining workers.

356. PETROL PUMP AUTOMATION

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In this project, we present a petrol pump automation system, to reduce the manpower employed and upgraded the existing fuel stations to a new level by using technologies. The fuel dispensing system is

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supported with IoT payment system. The system supports an easier, secure and reliable method. Its a code application, designed using PIC Microcontroller for payment, and charging them for the selected amount of fuel. The hardware consists of a microcontroller, relay, liquid crystal display and different basic electronic elements, and it is connected to traditional fuel dispensers.

357. ENERGY EFFICIENT APPROXIMATE MULTIPLIER FOR ERROR TOLERANT APPLICATIONS

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Approximate computing has emerged as a leading strategy in the quest to conserve energy in signal processing algorithms. By incorporating innovative techniques such as approximate multipliers, the functionality of applications like Convolutional Neural Networks (CNNs) and multimedia platforms can experience significant enhancements. These methodologies introduce a degree of approximation into computations, enabling a delicate balance between energy usage and output precision. The integration of approximate circuits is particularly notable for its capacity to deliver substantial energy avings while still maintaining an acceptable margin of error in output data. In the domain of CNNs, renowned for their demanding computational requirements, approximate computing stands out as a compelling solution to curtail energy consumption without sacrificing overall performance. Similarly, in real-time multimedia applications, where swift processing is paramount, the adoption of approximate techniques offers an effective mechanism to harmonize computational efficacy with output fidelity. As ongoing research continues to push the boundaries of innovation, the integration of approximate computing approaches is poised to assume a pivotal role in addressing the energy-related hurdles confronting contemporary signal processing applications

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358. STOCK RECOMMENDATION SYSTEM USING RISK ANALYSIS

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Investing in the stock market is complex, involving economics, statistics, and finance. It can beoverwhelming for beginners due to the required extensive research and understanding. The stock market carries significant risk, and managing the balance between risk and returns is crucial for optimizing benefits. Individual risk tolerance and goals influence their investment decisions. The proposed solution is a system designed to recommend stocks to users. These stocks are categorized into different risk levels. Current solutions include websites to monitor stocks and their associated data, models to predict stock price, systems to recommend stocks exist but are largely proprietary and paid. With the help of metrics calculated from both technical and fundamental data, the proposed system will provide a simplistic and high level of view of the risk involved in investing through the means of an easy-to-use application which will help users invest their money in an informed manner with relatively less effort.

359. HEART FAILURE PREDICTION USING ARTIFICIAL INTELLIGENCE WITH LOGISTIC REGRESSION ALGORITHM

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Heart failure (HF) is a global health problem with high morbidity and mortality. Early detection of people at risk of heart failure will ensure timely intervention and reduce negative outcomes. In this study, we present a new method for HF prediction using the logistic regression algorithm.Using comprehensive information on clinical and demographic characteristics, our model is designed to accurately classify individuals into heart failure categories. Through rigorous testing and evaluation, we demonstrate the effectiveness of our approach in predicting the onset of heart failure. Our findings suggest that predictive models based on logistic regression are promising for improving heart failure assessment and recommending interventions,thereby helping to improve patient outcomes and allocate medical resources.

360. ANOMALY DETECTION SYSTEM IN IOT BOTNETS

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The immediate rise and usage of Internet of Things and its following devices, has made the complexity and scale of IoT ecosystems. Unfortunately, this growth has also given rise to security threats, with IoT botnets from modern day devices being a prominent concern. These botnets in products such as intelligent thermostats, security cameras, and home automated systems, consisting of compromised IoT devices, can be exploited for various malicious activities, such as causing network disruptions, allowing attackers to remotely access, control, and potentially manipulate these devices, widening the scope of the attack and unauthorized access.This paper aims to present a robust anomaly system to identify and mitigate IoT botnet activities within a network of connected devices, by leveraging labeled IoT network data and a Convolutional neural network architecture optimized for anomaly detection, the proposed solution aims to reliably identify compromised devices conducting botnet activities with a high degree of accuracy. Evaluation parameters such as precision, recall, accuracy and F1 score will be used to validate the performance of the model against the N-BaIOT dataset. The findings of this research could help security professionals and IoT solution providers strengthen protections for modern network-connected systems against botnet exploits.

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361. AI-DRIVEN CUSTOMIZATION AND VISUALIZATION FOR PRODUCT ENHANCEMENT

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In todays digital era, theres a growing demand for personalized experiences across industries. Our paper introduces an innovative approach to product customization and visualization, using advanced AI technology. Our platform allows users to customize 3D models of various products like vehicles and apparel with ease and precision. By leveraging AI algorithms,users can interactively modify product components,bringing their creative visions to reality. Through seamless integration of AI-driven customization, we aim to redefine product personalization, enhancing consumer engagement and satisfaction in the digital age.

362. SIGN LANGUAGE RECOGNITION USING DEEP LEARNING

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Sign Language is mainly used by deaf and dumb people to exchange information between their own community and with other people. It is a language where people use their hand gestures to communicate

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as it can speak or hear. Sign Language Recognition deals with recognizing the hand gestures acquisition and continues till text or speech is generated for corresponding hand gestures. Here hand gestures for sign language can be classified as static and dynamic. However static hand gesture recognition is simpler than dynamic hand gesture recognition but both recognition is important to the human community. Use of Deep Learning Computer Vision to recognize the hand gestures by building Deep Neural Network architectures where the model will learn to recognize the hand gestures images over an epoch. Once the model Successfully recognizes the gesture the corresponding English text is generated and then text can be converted to speech. This model will be more efficient and hence communication for the deaf and dumb people will be easier.

363. BRING INTO BEING: REVOLUTIONIZING CUSTOMIZATION

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In todays digital landscape, personalized product customization has become a cornerstone of consumer engagement. Our project, hosted at https://bring-into-being.vercel.app/, endeavours to redefine the online customization experience by integrating cutting- edge technologies and user-centric design principles. This platform aims to bridge the gap between consumer expectations and existing online customization systems by offering a seamless and intuitive interface for designing personalized products. Leveraging insights from previous research and advancements in 3D visualization, our project strives to enhance user satisfaction and engagement. This paper provides a comprehensive overview of our project, detailing its objectives, methodology, system model, and future scope. Through this endeavour, we aspire to set a new standard for personalized product design in the digital age.

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364. AUTOMATIC HOME CONTROLLING SYSTEM FOR PARALYZED PATIENT USING EYE GESTURES

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The system revolutionizes the lives of paralyzed individuals by harnessing the power of eye-tracking technology for seamless control of home appliances. Utilizing OpenCV for robust and real-time eye tracking, the system enables patients to effortlessly interact with their surroundings by focusing on predefined patterns or commands. A user-friendly interface facilitates the establishment of a connection between eye movements and various household devices, including lights, fans, and entertainment systems. This innovative solution empowers individuals with limited mobility to regain independence, simplifying the management of daily routines and living spaces through intuitive gaze-based commands. By providing a novel avenue for communication and control, the system offers paralyzed patients a renewed sense of autonomy, convenience, and improved quality of life.

365. OPTIMIZING WASTE MANAGEMENT: INTEGRATED POLLUTION DETECTION AND SYSTEMATIC REPORTING FOR SUSTAINABLE DISPOSAL

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Effective waste management and pollution control are essential components of being a responsible environmental steward. An all-encompassing approach that reduces pollution and maximizes efficiency in waste management is presented in this study. It makes use of cutting-edge tech like YOLO object recognition, Faster R-CNN, and SVM-based AQI computation. The system employs YOLOv7 for real-time rubbish classification, allowing for quick and precise decisions about trash sorting and disposal. Producing garbage collection unit reports according to trash volume optimizes resource allocation and improves operational efficiency. Another use of Faster R-CNN is the fog density analysis, which yields comprehensive estimations of air pollution levels. In order to calculate the Air Quality Index (AQI), the system uses support vector machine (SVM) algorithms to combine a number of air quality indicators; this allows for thorough and accurate assessments. More accurate evaluation of the environmental impacts of waste management systems is also possible because to the enhanced trash classification capabilities. By combining fog density monitoring with AQI calculation, the approach offers comprehensive trend analysis of pollution; this helps in creating data-driven environmental policies and effective measures to manage pollution. Soil quality evaluation is one of the many functions of the system that also deals with waste management and pollution control. Waste management and pollution control have taken a giant leap ahead because to this integrated system's enhanced accuracy, efficiency, and support for sustainable environmental practices.

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366. DECENTRALIZED CRYPTO STRATEGY TOOL APP USING BLOCKCHAIN

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In this project, we present a novel approach to decentralized crypto strategy tools leveraging blockchain technology. In the ever-evolving landscape of cryptocurrency trading, effective strategies are essential for investors to navigate volatile markets successfully. Our project introduces a comprehensive solution that integrates a website application with various crypto spot and futures trading calculators, alongside advanced strategy tools. Leveraging the immutability and transparency of blockchain, our system ensures secure and transparent transactions while providing real-time market data and analysis.

367. AN INTEGRATED APPROACH FOR REAL-TIME VOICE RECOGNITION AND RESPONSE WITH GEMINI AI IN MOBILE ENVIRONMENTS

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This research introduces a voice-enabled AI mobile application to address the accessibility difficulties that visually impaired users confront. The AI turns users; spoken feedback into rich textual descriptions, allowing for seamless and text-based communication. The AI technology mixes natural sounds and input-based voice outputs to enable subtitled listening. Notably, the program expands the capacity to describe photos in detail, expanding access to visual content for a more immersive experience. This novel method intends to dramatically improve access to visual information for persons with poor eyesight by allowing for personalized customization and real-time response. Using the power of voice-enabled AI, this project aims to break down barriers, provide a more inclusive digital experience, and empower people to create and create with newfound freedom deep into the visual world.

368. ANALYZING BRAIN TUMOR DISEASE FROM MRI USING RANDOM FOREST

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Brain tumor is a disorder caused by the development of abnormal cells or tissues in the brain. Cells generally reproduce and die in a regular sequence and each new cell replacing the previous one. Sometimes,some cells become abnormal and continue to grow that cause's severe damage to the brain function and leads to death. Early diagnosis of the disease is crucial for proper treatment. Diagnosis of brain tumors is usually done using images obtained through magnetic resonance imaging (MRI). MRI images can be classified using a Convolutional Neural Network (CNN) and Random Forest, these are the techniques in deep learning. It is suitable for classifying large image datasets used for prediction of brain tumor accurately. So, a CNN and Random Forest model is trained with the same dataset which would save radiologist time for prediction.

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369. SALES FORECASTING MODEL USING MACHINE LEARNING

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Accurate sales prediction is the engine that drives the growth, success, or failure of contemporary retail firms running massive chains of enterprises.With the use of sales forecasting, companies are able to better manage their resources, such as production, cash flow, and develop educated business plans. This study focuses on predicting sales for stores using a machine learning approach, specifically employing ensemble techniques with a voting mechanism. The information includes important properties such as Store, DayOfWeek, Date, Sales, Customers, Open, Promo, StateHoliday, and SchoolHoliday. The goal of this study is to create a strong model that can predict sales for certain Rossmann outlets. Such predictions are crucial for optimizing inventory levels, staffing, and promotional activities, ultimately enhancing the stores operational efficiency and profitability. To achieve this, a comprehensive analysis of the dataset is conducted, including exploratory data analysis (EDA) and feature engineering. EDA provides insights into the relationships and patterns within the data, as feature engineering is modifying and generating new features to boost the efficiency of models. The ensemble technique, specifically a voting mechanism, is employed to combine multiple machine learning models for improved predictive accuracy. This approach leverages the strengths of individual models to mitigate weaknesses and enhance overall predictive performance. Models are evaluated using recall, f1score, and precision. All of the models prediction power and generalizability to new data sets may be understood with the use of these measurements. This studys findings provide credence to the idea that the ensemble approach may reliably forecast sales. Hence the objective is to bring the better accuracy and prediction results in this project

370.PERFORMANCE ENHANCEMENT OF MICRO-STRIP PATCH ANTENNA USING METAMATERIAL APPROACH

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Patch antennas, or micro-strip antennas, are compact, easy to integrate, low profile, and low power consumption. They are ideals for modern wireless communication systems due to their compact size, low profile, and ease of fabrication. However, achieving high gain, power handling capability, data throughput, and minimal losses can be challenging. Metamaterials, artificially engineered electromagnetic materials with negative permittivity and permeability, can enhance patch antenna performance for multi-band applications. This study investigates the key parameters and performance characteristics of micro-strip patch antennas when incorporating metamaterials within the dielectric substrate. We propose a novel design that utilizes a split-ring resonator (SRR) embedded within the dielectric to achieve superior performance. The proposed antenna is fabricated on a flame-retardant 4 (FR-4) dielectric substrate with dimensions of 50 mm x 50mm x 1.56mm3.

371. ENSEMBLE LEARNING IN DEMENTIA CLASSIFICATION: A SYNERGISTIC APPROACH FOR ENHANCED PREDICTIVE ACCURACY

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Dementia is a general term for loss of memory and other mental abilities severe enough to interfere with daily life. It is caused by physical changes in the brain. Prompt identification and categorization of dementia are essential for initiating timely treatments and enhancing patient prognosis. Machine learning (ML) has risen to prominence as a potent instrument in the healthcare sector for predictive analysis and decision-making. This study explores ML approaches for the early prediction and interpretability of dementia classification. We investigated both ensemble methods, and traditional classifiers, leveraging features extracted from neuroimaging data, clinical assessments, and demographic information. Additionally, we emphasize the importance of feature selection in the ML models for better performance. The incorporation of these understandable machine learning methods not only enables precise dementia categorization, but also offers significant insights into the features that influence the predictive results. These findings contribute to advancing early diagnosis and understanding the complex nature of dementia, ultimately aiding in the development of targeted interventions and personalized patient care.

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372. EVAPOTRANSPIRATION SENSOR BASED SMART SYSTEM USING INTERNET OF THINGS

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Evapotranspiration sensor is an important tool for agriculture because they can help farmers optimize irrigation scheduling, which is critical for efficient water use and healthy crop growth. They provide real-time information on crop water use and soil moisture, allowing farmers to make timely irrigation decisions. This helps ultimately increase profits. The set system comprised an Arduino, humidity detectors, a submersible water pump, and a relay medium. For data collection from different sensors, including soil moisture sensors, temperature sensors, and humidity sensors, we use NodeMCU ESP32. We monitor plants using an ESP32 camera to monitor the growth of the plant and use an unresistant infrared detector for Accuratesoil moisture measurement and Non-invasive. We use flow sensors to measure the amount of water being delivered to the plants. This data is then used to optimize irrigation schedules and prevent overwatering, leading to improved plant health andwater conservation. We power NodeMCU ESP32 using a rechargeable battery powered by a solar panel which generatesan equivalent amount of voltage regulation. This system will continue to take the inputs from the detectors until theres a sufficient quantum of humidity in the soil and also, it will automatically turn the pump off. Themost significant artistic practice and labor- ferocious duty in a typicalhothouse business is soddening. Watering systems make it easierto supply shops with water when they are in need.

373. DIAGNOSIS OF DISEASES USING MACHINE LEARNING

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The integration of artificial intelligence (AI) into healthcare has led to a paradigm shift, transforming diagnostic techniques, drug discovery, health analytics, and interventions. In this paper, we explore the potential of AI-based chatbot systems, specifically focusing on machine learning algorithms and Natural Language Processing (NLP), to cater to the needs of patients and their families. Our primary emphasis is on leveraging these technologies to develop an AI chatbot capable of predicting diseases based on patient symptoms. We present a scenario where an AI Disease Prediction Chatbot provides support to individuals, particularly pregnant women, mothers, and families with young children, by

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offering assistance and guidance in pertinent situations. This innovative approach holds promise in enhancing healthcare delivery, offering timely interventions, and ultimately improving patient outcomes.

374. CRIME RATE DETECTION USING K-MEANS ALGORITHM

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Traditionally, crime analysis has been a manual and time-consuming process. To address this, law enforcement is increasingly turning to data-driven prediction methods. While these approaches excel at identifying large-scale crime trends, they struggle with pinpointing specific crime patterns. This research introduces a Crime Rate Prediction System that bridges this gap. The system utilizes the K-means algorithm to analyze historical crime data, effectively clustering similar crime patterns. This allows for the identification of future crime hotspots within specific regions. By providing law enforcement with these insights, the system empowers proactive crime prevention strategies. The K-means algorithm efficiently categorizes data points, enabling the system to recognize patterns and forecast potential crime clusters. This targeted approach allows for more timely interventions and resource allocation by law enforcement, ultimately mitigating crime occurrence and fostering safer communities.

375. MULTIMODEL EMOTION RECOGNITION USING LEARNING ALGORITHMS

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This project offers an accurate way to classify emotional states using a multimodal approach to emotion recognition, incorporating voice and facial expression data. Gathering a variety of datasets, including speech recordings and videos of people expressing different emotions, is part of the technique. To extract features like Mel-frequency cepstral coefficients (MFCCs) and face landmarks, preprocessing techniques are used to scale, standardize, and combine features. Two modalities worth of data are then combined using feature fusion techniques to produce a complete emotional picture. Matrices like accuracy and F1-score are used in the training and evaluation of machine learning models, which include deep neural networks (such as CNNs and RNNs). Affective computing, mental health evaluation, and human-computer interaction are among the fields in which the results show how well the multimodal method recognizes-emotions.

376. CYBER ATTACK DETECTION IN INDUSTRIES USING MACHINE LEARNING MODELS

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In the era of big data, network security faces escalating threats that demand innovative solutions. This paper introduces an advanced Network Intrusion Detection System (NIDS) utilizing individual models, including CatBoost, XGBoost, and AdaBoost, to tackle the challenges of network intrusion detection in environments characterized by imbalanced datasets. Each model independently contributes to automatic feature extraction, providing an effective means of discerning subtle intrusion patterns in network traffic data.Additionally, each boosting algorithm is employed separately to address the issue of imbalanced data, using techniques such as SMOTE oversampling and Tomek-Links undersampling to ensure a balanced representation of minority classes. The results demonstrate significant improvements in detection accuracy for each standalone model. This approach, employing CatBoost, XGBoost, and AdaBoost individually, offers potent solutions to enhance intrusion detection in complex network landscapes, ensuring accurate and robust security measures, regardless of data volume and class distribution intricacies.

377. VIRTUAL EDUCATION SYSTEM

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This paper explores a Virtual Education System (VES) that taps into the potential of Augmented Reality (AR) and Virtual Reality (VR) technologies to revolutionize learning experiences. By integrating AR/VR capabilities, educators can create engaging virtual classrooms and simulations, fostering interactive and collaborative learning. Students benefit from dynamic, immersive experiences, promoting active participation and critical thinking.The VES supports hands-on laboratories, collaborative projects,and real-world simulations, transcending traditional boundaries of education.

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This research delves into the technical aspects, challenges, and future developments of AR/VR in education, contributing to the evolving landscape of immersive learning technologies.

378. DETECTING CYBER THREATS IN MEDICAL DEVICES DURING DATA TRANSFERS USING MACHINE LEARNING

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Network security faces growing dangers in the big data era, which calls for creative solutions. To tackle the difficulties associated with network intrusion detection in settings when datasets are unbalanced, this project introduces an advanced Network Intrusion Detection System (NIDS) that makes use of individual models, such as Support Vector Machines (SVM), k-Nearest Neighbors (KNN), and Random Forest (RF). With each model contributing separately to automatic feature extraction, network traffic data can be effectively used to identify subtle patterns of intrusion. Furthermore, each classification algorithm is used independently to address the problem of unbalanced data, employing methods like Tomek-Links undersampling and SMOTE oversampling to guarantee a fair representation of minority classes.The findings show that each solo model's detection accuracy has significantly improved. Using SVM, KNN, and RF separately, this method provides effective ways to improve intrusion detection in intricate network environments, guaranteeing precise and reliable security controls despite the complexities of data volume and class distribution.

379. INTELLIGENT TRAFFIC MANAGEMENT SYSTEM USING YOLOV5

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The proposed system aims to enhance road safety through the integration of YOLOv5 object detection model for real-time detection of helmet usage, traffic signal violations, and cell phone usage by drivers.The system utilizes the state-of-the-art YOLOv5 architecture, known for its accuracy and speed in object detection tasks. By detecting whether individuals are wearing helmets, disobeying traffic signals, or using cell phones while driving, the system can automatically alert authorities for immediate intervention. This advanced technology offers a proactive approach to enforcing traffic regulations and reducing the occurrence of accidents caused by negligence on the road. The YOLOv5 model allows for efficient processing of video streams, enabling quick and accurate identification of safety violations in real-time scenarios. Overall, this system provides a robust solution for enforcing road safety measures and promoting responsible driving behavior. Helmet detection, traffic signal violation, cell phone usage detection.

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380. MAGNETIC RESONANCE STATIC WIRELESS POWER TRANSFER FOR EFFICIENT AND FLEXIBLE ELECTRIC VEHICLE CHARGING

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This paper explores static wireless power transfer (WPT) systems tailored for electric vehicle (EV) charging without relying on plug-in connections. Static WPT enables the transfer of electrical energy from a stationary power source to a vehicle parked over a charging pad, offering convenience and eliminating the need for physical cables. The study focuses on understanding the fundamental principles of static WPT, particularly magnetic resonance and inductive coupling, which are essential for efficient energy transfer. Various configurations and topologies of static WPT systems are investigated, taking into account factors such as power transfer efficiency, alignment tolerance, and electromagnetic compatibility. Additionally, the paper examines critical components such as power electronics, coil design, and control strategies, highlighting their significance in optimizing system performance and ensuring safe charging operations. Challenges such as efficiency enhancement, foreign object detection, and standardization are addressed, alongside potential solutions and ongoing research endeavors. This paper contributes valuable insights into the design and implementation of static WPT systems for EV charging, laying the groundwork for further advancements in this vital technology.

381. IMPACT OF DIELECTRIC SUBSTRATE SELECTION ON THE PERFORMANCE OF SUB-6 GHZ 5G MICROSTRIP ANTENNA

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This research investigates the influence of dielectric substrate selection on the performance characteristics of a conventional sub-6 GHz 5G microstrip antenna. Five distinct dielectric substrates, namely FR4, Arlon AD300C, Rogers RT 5880, polymide, and Taconic RF 10, are considered for analysis. Through rigorous simulation using CST Studio 2019, the gain and bandwidth of a reference rectangular patch antenna are evaluated for each substrate. The study reveals substantial variations in antenna performance across the different substrates, particularly emphasizing the significant impact at higher frequencies characteristic of sub-6 GHz 5G applications. Comparative analysis demonstrates the advantages of certain substrates over others, highlighting the importance of informed substrate selection in optimizing antenna efficiency and bandwidth for sub-6 GHz 5G microstrip antennas. This study contributes valuable insights for antenna designers and researchers aiming to enhance the performance of microstrip antennas in emerging wireless communication systems.

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382. SMART AMANUENSIS SYSTEM FOR VISUALLY IMPAIRED PEOPLE

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Developing a system to help with this task is crucial because of the vast amount of texts and written media that are available today. It has become more and more important to make these materials accessible to people from all walks of life, especially those who are visually impaired.Nowadays, exams are conducted in a handwritten format, if visually impaired persons need to attend the exam they need assistance to complete the exam, whether they are for school, a service, or something else entirely. To overcome this, a new technology known as the "Smart Amanuensis System" is developed. It allows visually impaired persons to complete exams on their own without any assistance they can deliver their answers through the system. The Smart Amanuensis System consists of two modules. The text-to-speech conversion module is the first module; it serves as an input module. It converts the Question Paper to an audio format. In this module, the questions are delivered one by one in a particular time duration. The second module is the speech-to-text conversion module acts as an output module. If the visually impaired students can know the corresponding answer they deliver their answer through an audio signal. Whether they delivered the answer for the corresponding question or not within the time limit the system switched over to the next question. The module converts the audio signal into the text.Ultimately, once every response has been completed, the answer is saved as a single document format.

383. SURVEILLANCE ROBOT

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In an era characterized by technological advancements, the integration of robotics and artificial intelligence has paved the way for innovative solutions across various domains. This project addresses the evolving landscape of surveillance technology by designing and implementing a surveillance robot equipped with advanced features such as object recognition and mask detection. Motivated by the increasing need for sophisticated surveillance solutions amidst emerging challenges like security threats and public health crises such as the COVID-19 pandemic, the project aims to develop a versatile system capable of identifying known individuals, detecting mask compliance, and alerting authorities in real time. The surveillance robot, built on components including Raspberry Pi 4, cameras, sensors, and IoT connectivity, offers a comprehensive solution for enhanced security monitoring in diverse settings. Through a combination of hardware and software components, the system operates in real-time, autonomously scanning its surroundings, and triggering alerts upon detecting anomalies. The

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significance of the project lies in its potential to address pressing societal needs, ranging from bolstering security measures in industrial facilities to enforcing safety protocols in public spaces. Additionally, the project facilitates experimentation and creativity, advancing surveillance technology and opening up opportunities for future research endeavors in robotics, artificial intelligence, and IoT integration.

384. TRANSFORMATIVE DETECTION OF POTATO LEAF DISEASES: EMPOWERING PHYTOPATHOLOGY WITH DEEP LEARNING

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Sparse Potato ranks as the third most important crop globally, after rice and wheat, with production surpassing 300 million metric tons. Potatoes contribute crucial nutrients, including sodium, potassium, and vitamin C, among others. Globally potato crop faces significant losses annually, primarily attributed to various factors, with plant diseases being a major contributor. Detecting potato plant disease early can significantly reduce the loss. Identifying diseases manually proves to be challenging, expensive, and time-intensive, whereas automated inspection offers a potentially more efficient and cost-effective solution. In this paper, we have proposed a Deep Learning (DL) model of CNN (Convolutional Neural Network) with a pattern recognition technique to identify the disease of potato leaf. The model has employed image augmentation techniques such as flipping and rotation to facilitate enhanced feature learning, enabling more effective diagnosis of diseased leaves across various orientations. Classification is done through the SoftMax layer as a part of CNN. We have obtained an accuracy of 99.5% using 60% as training,20% for testing and 20% for validating.

385. DIABETIC RETINOPATHY USING DEEP LEARNING

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If diabetes problems are not managed, diabetic retinopathy can result in permanent blindness. The main obstacle is early identification, which is necessary for a successful course of treatment. Regretfully,

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precise staging of diabetic retinopathy is challenging and necessitates knowledgeable fundus imaging interpretation. Simplifying the application procedure is crucial and might help millions of people. CNN have been effectively used for a variety of relevant themes, including as diabetic retinopathy self-diagnosis. Nevertheless, these systems' efficacy is diminished by the high expense of annotated datasets and the variability of physicians. In this, we would provide a single human brain image-based automatic self-learning technique to diagnose diabetic retinopathy. Furthermore, we provide a multi-phase method for transfer learning that makes use of comparable datasets with distinct IDs. With a second weighted kappa value of 0.925466, this technique can be employed as a screening tool for the early diagnosis of diabetic retinopathy among 2943 competing diseases in the APTOS 2019 blind list (13,000 photos). Its demonstrated sensitivity and specificity are both 0.99. 54.

386. DESIGN OF ARMOURED SUIT SYSTEMS FOR DEFENCE VEHICLES

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In response to the critical need for enhanced protection of armored vehicles and convoys, this project introduces an innovative defense system to actively protect a designated vehicle. Central to its functionality are advanced sensors strategically integrated into the vehicles, diligently monitoring the distance between the vehicle and any potential projectiles. The system leverages real-time data analysis to establish a predefined danger zone, and when the tracked projectile breaches this threshold, an automated reaction is triggered. This proactive response is designed to fortify the defense capabilities of armored assets, mitigating potential risks and fortifying the safety of the convoy. The implementation of this defense system marks a significant advancement in vehicular security, providing a dynamic and adaptive shield against potential threats. The integration of cutting-edge sensor technology and automated response mechanisms ensures that the defense system operates seamlessly, offering a rapid and effective countermeasure to potential dangers. By focusing on preemptive action based on real-time data, this project aims protect by active armoural suit system for armored vehicles, contributing to heightened security and safeguarding the lives of those within the convoy.

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387. AUTOMATIVE SERICULTURE FARM

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Through the use of cutting-edge automation technology, the "Automation Sericulture Farm" initiative seeks to transform conventional sericulture practices by expediting the processes of mulberry planting, silkworm rearing, cocoon harvesting, and silk processing. Automated mulberry plantation systems, Internet of Things-based climate and environment management for silkworm rearing buildings, robotic cocoon harvesting, and sophisticated silk reeling technology will all be beneficial to this labor-intensive sector. These developments offer lower labor costs and more production, quality, and efficiency, opening the door for a profitable, sustainable, and modernized future for sericulture.

388. FAULT LOCATION ESTIMATION ON TRANSMISSION LINES (LOW VOLTAGE)

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For every utility company, automation of substation become a need as complexity of distributed network has grown. It becomes necessary to be familiar with the fault. The main purpose of our proposed system is to alert the people residing in the particular area whenever a fault occurs in the transmission line. It occurs due to various factors like physical contact of branches of the tree touching the line and due to this contact some fault can be occurred .The line to ground fault can be occurred when short circuit occurs between any one-phase of the system and cut down the line and touches the ground. But the supply will be passed in the transmission line.If any people touch or hit the line, it may cause risk to the people. Though the ward member able to rectify the fault, It takes a time longer to rectify. In that instant time there is a chance of fault and this causes danger to the people residing/walking on that particular area. The alert message is sent through GSM. The location of occurrence of fault is detected by GPS. Simulations are carried out I MATLAB/SIMULINK and results are given for detecting the area where the fault is occurring.

389. INTEGRATION OF IOT AND DEEP LEARNING FOR AGRICULTURE AUTOMATION AND MONITORING

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This project uses a system integrating deep learning and IoT devices to automate crop monitoring and control in the field. Real-time crop disease detection of images transmitted by ESP32 CAM cameras uses a convolutional neural network that identifies diseases in crops before symptoms begin to show. Automated Irrigation is a technique that utilizes soil moisture sensor data and also modulates watering

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according to the present conditions and helps in optimizing water-use efficiency. Environmental sensors track temperature, humidity levels which will automatically control fans and heaters so as to maintain the plant growing environment. The system's analytics that predict and respond rapidly enhance preventative care aimed at enhancing productivity. This is also available through Blynk IoT, which performs a complete produce monitoring that sends an early warning of possible diseases leading to appropriate responses, the key problems in traditional farming. The scalability of the AI sensor, which will respond to the imminent food shortages, does just that, agriculture is moving to precision data-based agriculture for sustainability.Integrated computer vision-based disease detection and sensor-based irrigation regulation system account for the unreliability brought by human crop supervision. The system which focuses on water, fertilizer and consumption energy efficiency with sensor readings as well as intelligent activation in addressing the current challenges is utilized.

390. EXPLORING WILDLIFE SANCTUARY USING VR

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This paper investigates the potential of virtual reality (VR) technology in creating immersive zoo experiences. We propose the development of a virtual zoo built using the Unity game engine. This virtual environment will allow users to explore diverse animal habitats, encounter a variety of species up close, and gain knowledge about their behaviour and conservation efforts. The paper will detail the design and development process within the Unity framework, focusing on creating realistic environments, believable animal interactions, and educational content integration. We posit that VR zoos can revolutionize traditional zoo experiences by offering geographically unrestricted access to wildlife, fostering a deeper connection with the animal kingdom, and promoting conservation awareness.

391. AUTOMATING DATA PREPROCESSING FOR RELIABLE PREDICTIVE MODELING

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Data preprocessing is a critical component of data science, involving the transformation of raw data into a format suitable for analysis. This project introduces a user-friendly command-line tool designed to expedite data preprocessing tasks such as cleaning, encoding, and visualization. By optimizing efficiency and automation, the tool empowers data scientists to streamline workflows and ensure the integrity of their data. Key functionalities include handling missing data, resolving inconsistencies, and selecting relevant features. These processes contribute to enhancing data quality, improving the performance of machine learning models, and facilitating informed decision-making. With a focus on technical proficiency and usability, this project aims to simplify the complexities of data preprocessing, thereby enabling more effective analysis and decision-making in data science applications.

392. REAL TIME POSE ESTIMATION FOR PHYSIOTHERAPY USING OPENCV AND MEDIAPIPE

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Traditional physiotherapy, which is characterized by scheduled weekly assessments and geographical constraints, poses challenges for patients who have limited mobility, live in remote areas, have financial constraints, or are dealing with health issues. To address these limitations, we present this physiotherapy project based on advanced computer vision techniques, specifically real-time pose estimation technology. Our program uses OpenCV, MediaPipe, and audio features to accurately track patients' movements during physiotherapy exercises, allowing them to receive real-time feedback and assistance from the comfort of their home. The system is tailored to individual patient needs and allows users to perform self-guided exercises, transforming the traditional physiotherapy model into a more convenient, cost-effective, and accessible option. We've included an audio guidance feature to help people with vision impairments by providing real-time feedback during exercises, ensuring that they follow instructions correctly. Moreover, the program features both an automated reporting system and an alert mechanism. It automatically dispatches exercise completion reports to physiotherapists via email. Additionally, in the event of unexpected issues or a medical emergency, the system promptly sends SMS notifications to both the physiotherapist and the users next of kin. Our project meets the

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diverse needs of its users while also changing the landscape of remote patient monitoring and physiotherapy accessibility.

393. WEAPON RECOGNITION IN CCTV VIDEOS: DEEP LEARNING SOLUTIONS FOR RAPID THREAT IDENTIFICATION

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The study offers a new dataset and method for real-time weapon identification in surveillance video using deep learning, which can identify weapons in surveillance video cameras or smart IP cameras and give real-time notifications to security staff. The paper discusses the challenges of detecting weapons in surveillance videos, including the variability of the pose and appearance of the hand weapons and the complexity of the background scenes. The proposed model uses a sliding window process and feature selection to accurately identify weapons in surveillance videos. The framework relies on the YOLOv8 algorithm and the PELSF-DCNN classifier, augmented for feature selection via the CSBO method. The suggested system demonstrates exceptional accuracy and minimal false positive rates by utilizing advanced deep-learning techniques and motion estimates. The authors test their methodology on a new dataset of video surveillance photos including hand weapons and show that it beats state-of-the-art algorithms in terms of detection accuracy and speed. They compare R-CNN and R-FCN real-time object detection algorithms with feature extractors VGG and ResNet. They also look at the implementation of transfer learning and data augmentation methods to increase model accuracy. The paper proposes a novel blending pose method to augment the training data and improve the robustness of the detection model to pose variations. The authors discuss the dataset folder structure, XML annotation format, and the edge/cloud framework used to deploy the system in the real world. They provide deep insight into the research findings and discuss the limitations and potential drawbacks of using this type of technology for surveillance. To identify potential instances of violence and deter criminal activities, it is recommended that the proposed system be integrated with existing surveillance cameras or intelligent IP cameras. The authors conclude their discourse with prospective future endeavors in this domain, including the utilization of increasingly advanced deep learning algorithms and the integration of supplementary varieties of sensors and data sources to enhance the precision and effectiveness of the system. Overall, this research provides insights into the potential of deep learning for improving public safety and security. The proposed system can be applied to real-time surveillance videos to detect potential violent situations and prevent crimes. The study emphasizes the need to establish effective solutions to reduce weapon violence and offers a potential way to accomplish this aim.

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394. RECOGNITION MODEL OF CASSAVA PLANT DISEASES BASED ON DEEP LEARNING IN HARSH ENVIRONMENTS

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Agricultural diseases and insect pests are one of the most important factors that seriously threaten agricultural production. Early detection and identification of pests can effectively reduce the economic losses caused by pests.convolution neural network is used to automatically identify crop diseases The aim of this study was to determine the effect of irrigating with water from fish ponds on plant growth in test plots in Yola, north eastern Nigeria. A field experiment was carried out in Yola Adamawa state at American University of Nigeria. The experiment involved a farm which was divided into the plots and 30 plant were present on each plot. Each plot was irrigated differently. After the germination of the crops the stem growth of the plants were measured. The data acquired was analysed using ANOVA which gave a p-value indicating that the result was statistically not significant. The studys findings demonstrate that the vote classifiers accuracy was 99.95%.

395. GOV SCHEMIFY – A CHATBOT FOR GOVERNMENT SCHEMES

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With the advent of internet and communication technologies, there is huge increase in the peoples dependence on the technologies for information retrieval. It is not only limited to social media usage but also extended to make people access to government websites for accessing the information on government related schemes. General public, industrial bodies get benefitted from the government schemes which have been announced by the government day-today. It is especially benefitted to the farmers in terms of subsidies and loan waiver schemes. So, it is very important to have an authentic method based on the recent technologies to gather up all the scheme related information and get updated itself and help the people who were in needs. This is achieved by developing and deploying a Chatbot inclusively for the retrieval of information about the governments schemes on periodic basis and store it in its database and managing the inquiries from various type of people and providing them with all the relevant information. In this paper, we have developed the chatbot intended to spread knowledge about government-sponsored travel and agriculture initiatives. It acts as a virtual assistant to the people which provide information related to agriculture schemes like crop protection schemes, farmer's loan waiver schemes, pesticide schemes etc. And travel schemes like providing subsidy for Manasarovar yatra, 8 Days Tamil Nadu tour, etc. It uses Natural language processing techniques to fetch the data from authentic websites and store it in local database and comprehend the user's requests and provide them with proper responses instantly. Based on user engagement and input, it continuously refines its responses using machine learning techniques. In order to provide scalability and dependability, this chatbot is installed on a cloud platform, guaranteeing continuous service even during busy times.

396. DEEP SEMANTIC AND UNIVERSAL DOMAIN ADAPTATION REMOTE SENSING IMAGE SCENE CLASSIFICATION DOMAIN REPRESENTATION LEARNING

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Remote sensing image scene classification with deep learning (DL) is a rapidly growing field that has gained significant attention in the past few years. While previous review papers in this domain have been confined to 2024, an up-to-date review to show the progression of research extending into the present phase is lacking. Remote sensing image scene classification is one of the most challenging problems in understanding highresolution remote sensing images. Deep learning techniques, especially the convolutional neural network (CNN), have improved the performance of remote sensing image scene classification due to the powerful perspective of feature learning and reasoning. However, several fully connected layers are always added to the end of CNN models, which is not efficient in capturing the hierarchical structure of the entities in the images and does not fully consider the spatial information that is important to classification. Deep learning approaches are gaining popularity in image feature analysis and in attaining state-of-the-art performances in scene classification of remote sensing imagery. To tackle the challenges, we propose a novel scene classification model that integrates heterogeneous features of multi-source data. Firstly, a multi-granularity feature learning module is designed, which

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can conduct uniform grid sampling of images to learn multi-granularity features. In this module, in addition to the features of our previous research, we also supplemented the socio-economic semantic features of the scene, and attention-based pooling is introduced to achieve different levels of representation of images. Then, to reduce the dimension of the feature, we adopt the feature-level fusion method. Next, the maxout-based module is designed to fuse the features of different granularity and extract the most distinguishing second-order latent ontology essence features. Experimental results show that the proposed scene classification method can achieve the most advanced results on limited datasets.

397. AN ENHANCED REAL-TIME HUMAN DETECTION KEYFRAME EXTRACTION

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Surveillance video assists in criminal investigations by necessitating investigators to dedicate substantial time to scrutinize extensive footage in order to identify suspects. To circumvent this issue, keyframe extraction approach is used to identify the most significant images from these huge stored videos. Currently, there are a number of keyframe extraction methods that aim to identify particular human actions from the frames that have been retrieved. In this paper, the proposed method advances a keyframe extraction approach that identifies keyframes based on human detection to enhance crime scene analysis. The proposed approach consists of two stages. As a preliminary step, the Faster Region Convolutional Neural Network(R-CNN) method is applied to the surveillance video in order to identify any human participants. During the subsequent phase, the video frames that were detected by humans are extracted and refined using the absolute difference method in order to generate a keyframe. Finally, the experiment combining faster R-CNN and keyframe extraction successfully reduced extraction time significantly compared to Histogram of Gradients – Support Vector Machine (HOG-SVM) with background subtraction without sacrificing precision aiding crime investigation.

398. CHATWELFARE – SCHEMES FOR PHYSICALLY CHALLENGED PERSONS

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ChatWelfare, an innovative chatbot, addresses the challenges faced by physically challenged individuals by providing a conversational interface to discover relevant support schemes. Utilizing natural language processing and artificial intelligence, ChatWelfare engages users, comprehends their needs, and offers personalized information. This paper outlines the development, implementation, and evaluation of ChatWelfare, emphasizing its potential to significantly enhance accessibility for the physically challenged. The chatbot is effectively implemented using Java spring boot framework with NLP libraries. The Interactive UI design is created using Figma tool. The conversation between the chatbot and user can be both textual and voice recognition. The voice to text conversion is implemented using Python libraries. The primary goal of this chatbot is for the physically challenged person who are all facing the mobility issues. The secondary goal is to avoid the travel expenses, intermediate agents, and reducing financial issues.

399. CLOUD BASED SOCIAL ENGINEERING SECURITY AUDIT TOOL WITH MODERN WEB GUI

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Social engineering attacks are a major threat to the security of organizations, as they target the weakest link in any security system. To test their defenses against social engineering attacks, security professionals use social engineering security audit tools. This project presents a tool built using Node.js and Java-Servlet that defense the fake pages and send report to admin or user. The tool provides mail operation and share the system IP, app name & time of fake page visible. The purpose of this project is to provide a reliable and efficient tool that can help organizations test their security defenses against social engineering attacks. The tool provides a simple and user- friendly interface that makes it easy for security professionals to report fake pages and capture the system IP, app name and time of fake page visible. The project also has future scope for improvement and development, making it a valuable contribution to the field of social engineering security audit.

400. PILL DETECTION WITH MEDICIAL DRUG IDENTIFICATION SYSTEM

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Abstract Identifying drug pills is one of the most crucial duties for medication safety. Improving pharmaceutical safety starts with accurately identifying drugs based on their outward appearance. The goal of earlier research was to identify drugs by looking at them from either the front or the back at a set viewing angle. In actual applications, the prior approaches have trouble identifying and detecting distinct substances in circumstances when there are several medications and the drugs are put randomly.

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In this work, a convolution neural network-based detector is developed to overcome the challenges and help patients identify drugs. A localization stage and a classification stage are part of the suggested system. For drug localization, the enhanced feature pyramid network (EFPN) is suggested, while for drug classification, Inception-ResNet v2 is employed. Sixty-one medication dataset categories are included in the proposed medication Pills Image Database, which is intended to support deep learning studies in the pharmaceutical industry. In the localization experiment, the suggested EFPN attains an accuracy rate of more than 96%. The suggested system received the Top-1, Top-3, and Top-5 accuracies of 82.1, 92.4, and 94.7%, respectively, in the entire system evaluation.

401. STATEWISE CRIME PATTERNS WITH ENSEMBLE MACHINE LEARNING AND DATA VISUALIZATION TECHNIQUES FOR PUBLIC SAFETY

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This research aims to uncover state-specific crime patterns using aggregate machine learning and data visualization techniques to improve public safety. As the amount and complexity of crime- related information increases, traditional crime trend analysis methods have become ineffective.Therefore, this study proposes a new approach that combines strengths of machine learning algorithms and data visualization techniques to unravel crime patterns at the state level. The ensemble machine learning approach involves the integration of multiple algorithms to improve prediction accuracy and achieve more reliable results. Using this approach, studies examine various characteristics of crime, such as place, time, and type, to identify important patterns and relationships. The data visualization techniques used in this study provide an intuitive representation of crime patterns, allowing stakeholders to easily interpret and understand the data. In addition, visualizations can effectively communicate observations and improve decision-making processes in the context of public safety. The research commences by aggregating crime data from diverse sources, encompassing various categories such as violent crimes, property crimes, and white-collar crimes. By employing ensemble machine learning algorithms such asrandom forests and gradient boosting, the study seeks to develop predictive models capable of identifying the key determinants contributing to crime rates across different states. These models serve a dual purpose: they unravel the underlying factors behind criminal activities and provide the ability to forecast future crime trends. This predictive capability equips law enforcement agencies with the tools needed for resource allocation and proactive intervention, ultimately leading to more efficient crime prevention strategies.

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402. VOICEPRINT VERIFICATION:A SECURE PASSWORD AUTHENTICATION METHOD

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Integration of Cloud & Big Data is the most challenging task to handle. Virtualization was implemented for effective data Processing by which integration of Big Data & Cloud is achieved. Virtual Machines can be added or removed as per the request. But when it comes under security the password could be hacked through tracing keys in keyboard. The proposed system is designed using an audio-based password system with an integration of Sound position. Many systems have been developed using the sound, but in the proposed system we used the positioning technique to integrate the soundtrack. The sound signature or tone can be recalled like images, text etc. Here we play an audio source for some duration, user have to click the audio clip at a particular time, a value is selected with will decide that the user is legitimate or an impostor. We use two kinds of algorithms; in the first algorithm we use Audio Point Position for secure the key. In the second algorithm we use a reversible integer transform to obtain the transform domain coefficients.

403. A DEEP AUTOMATED BONE AGE ASSESSMENT MODEL THROUGH CONVOLUTIONAL NEURAL NETWORK

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Accurate assessment of bone age is essential in pediatric medicine for diagnosing growth disorders and monitoring development. Traditional methods rely on radiographic analysis performed by experts, which can be time-consuming and subjective. In pediatric medicine, precise determination of bone age is crucial for the diagnosis of growth problems and for tracking the development of patients. Conventional techniques rely on professional radiographic analysis, which can be subjective and time-consuming. Deep learning methods, in particular Convolutional Neural Networks (CNNs), have demonstrated promise in automating the determination of bone age in recent years. This research provides a unique CNN-based method for determining the age of human bones. We put forth a deep learning framework that has been trained on a sizable collection of hand radiographs that have been labelled with bone ages. Through the use of convolutional layers, the CNN architecture automatically

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extracts hierarchical features from the images, identifying patterns that are both local and global indicators of bone maturation. Using the bone age dataset, we apply transfer learning to improve a CNN model that has already been trained. The performance of the proposed model is evaluated using standard metrics including mean absolute error (MAE).

404. CARDIAC ARRHYTHMIA CLASSIFIER USING LABVIEW

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Advancements in electronic recording and computer-based techniques have made quantitative analyses of lung and tracheal sound signals possible. These methods overcome the limitations of human ear subjective auscultation. However, heart sounds interfere with lung sounds, hindering the ability to diagnose respiratory illnesses.This paper uses a heart and lung dataset as input, preprocesses it with filters, handles null values, label encoding, and unnecessary columns, splits for classification, and evaluates the performance of prediction.By separating heart and lung sounds through filtering techniques, this study aims to improve the accuracy of respiratory illness diagnosis using quantitative analysis. The results of this research could potentially revolutionize the way healthcare professionals approach auscultation and improve patient outcomes.

405. CRYPTOCURRENCY PRICE PREDICTION OF LIVE STREAMING DATA USING A HYBRID LSTM AND TRANSFORMER

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Cryptocurrency markets exhibit notable volatility and are influenced by diverse factors, rendering precise price prediction formidable. In recent years, deep learning methodologies have emerged as promising avenues for forecasting time-series financial data. This study presents an innovative approach to cryptocurrency price prediction through the development of a hybrid model that amalgamates Long Short-Term Memory (LSTM) and transformer architectures. The LSTM component captures the sequential dependencies inherent in the data, whereas the transformer architecture excels in managing long-range dependencies and discerning intricate patterns. Through the fusion of these architectures, the proposed model harnesses the complementary strengths of both, thereby enhancing prediction accuracy. Additionally, the model was specifically engineered to accommodate live streaming data and facilitate real-time forecasting. The empirical findings underscore the efficacy of the proposed hybrid model vis-à-vis standalone LSTM or Transformer models, underscoring improved prediction performance across various cryptocurrency datasets.

406. AUTOMATIC IMAGE SEGMENTATION USING DEEP LEARNING

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Deep learning techniques are used in this research to present automatic image segmentation. Simultaneous sematic and instance segmentation is achieved through the use of dual-stream neural networks. Although the instance segmentation stream uses instanceaware networks to precisely delineate object borders, the semantic segmentation stream uses a fully convolutional network to provide category labels to pixels, capturing scene context. The model is trained on several datasets containing a variety of scenarios, objects, and environmental conditions in an effort to enhance generalization. Transfer learning improves flexibility in the face of panoptic segmentation problems. It is initialized with pre-trained weights and fine-tuned using domain-specific datasets.

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407. UNDERGROUND CABLE FAULT DETECTION USING IOT IN SINGLE PHASE

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This method provides a unique method that makes use of embedded system and Internet of Things (IoT) technologies to detect defects in single-phase underground cables. The suggested solution makes use of Internet of Things enabled sensors positioned throughout the underground cable network to continuously monitor a number of variables, including voltage, current, and location. These sensor nodes wirelessly connect to a central embedded system, which uses sophisticated algorithms to process the data and locate and identify defects precisely. The suggested method offers a number of benefits by combining embedded systems and IoT, such as increased maintenance efficiency, less downtime, and better problem detection accuracy. The suggested system's efficacy and dependability in identifying single-phase cable defects are demonstrated by the experimental results, which advances the field of fault detection methods for underground power distribution networks. It is constructed inside a metal box and values have been measured.

408. PEST DETECTION SYSTEM USING DEEP LEARNING

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Long time is taken by conventional agricultural pest scouting techniques, which are also vulnerable to mistakes made by humans and may not identify pests on time. In this study, the authors propose a unique deep learning system using an accurate and efficient algorithm called EfficientNetB4 for pest detection. The system has been trained with vast data of insects' photographs which can be used in real-time to distinguish between various species of pests. This work recommends a deep learning-based method for pest detection that is different from any other methods. Our system uses EfficientNetB4 algorithm that is known for its accuracy and efficiency. We have trained our model on a large dataset of pests' photos so that it is able to recognize and classify different types of pests in pictures that have been taken. It has

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several benefits: Better Accuracy: As compared with traditional approaches, EfficientNetB4's deep architecture performs better in terms of exact pest identification. On Time Intervention: Early detection of pests limits plant destruction due to diseases hence promoting long-term control measures against them.

409. CROP DETECTION USING REMOTE SENSING IMAGES

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Crop detection is essential for many agricultural applications, such as crop management, crop identification etc.The development of deep learning methods and the availability of satellite imagery have made automated crop detection practical and effective. This work provides a thorough examination and analysis of current advancements in crop recognition utilizing deep learning techniques on satellite imagery. Planning the harvest type can give a premise to separating data on crop establishing design, and region and yield assessment. Acquiring enormous croptype planning by field examination is wasteful and costly. Conventional order strategies have low arrangement precision because of the discontinuity and heterogeneity of harvest planting. In any case, the profound learning calculation has major areas of strength for an extraction capacity and can really recognize and order crop types. This study utilizes GF-1 high-goal remote detecting pictures as the information hotspot for the otherworldly component informational collections are built through field inspecting and utilized for preparing and check, joined with essential review information of grain creation utilitarian regions at the plot scale. The outcomes show that the combination of multi-phantom data and vegetation record highlights further develops order precision. The profound learning calculation is better than the AI calculation in both order precision and grouping impact. Our model proposes a division of the yield over the chose region

410. CLASSIFICATION OF PUBLIC FEEDBACK SYSTEM TO KNOW PROBLEM FACED BY COMMON GROUP OF PEOPLE RESEARCH PAPER

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Forecast based dynamic frameworks are turning out to be progressively predominant in different spaces. Past investigations have exhibited that such frameworks are powerless against out of control input circles, e.g., when police are more than once sent back to similar areas no matter what the real pace of crime, which worsen existing predispositions. Practically speaking, the computerized choices have dynamic input impacts on the actual framework that can sustain over the long haul, making it hard for foolhardy plan decisions to control the frameworks development. While specialists began proposing longer-term answers for forestall unfriendly results (like predisposition towards specific gatherings),these mediations generally rely upon impromptu demonstrating presumptions and a thorough hypothetical comprehension of the criticism elements in ML-based dynamic frameworks is right now absent. In this paper,we utilize the language of dynamical frameworks hypothesis, a part of applied science that arrangements with the examination of the interconnection of situation with dynamic ways of behaving, to thoroughly characterize the various sorts of criticism circles in the ML-based dynamic pipeline. By checking on existing insightful work, we show that this order covers numerous models examined in the algorithmic decency local area, subsequently giving a binding together and principled structure to concentrate on criticism circles. By subjective investigation, and through a reproduction illustration of recommender frameworks, we show which explicit sorts of ML predispositions are impacted by each kind of input circle. We find that the presence of criticism circles in the ML-based dynamic pipeline can propagate,support, or even lessen ML predispositions.

411. MACHINE LEARNING BASED FAULT PREDICTION IN SINGLE PHASE INDUCTION MOTOR

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Detecting problems in induction motors before they completely stop working is very important for industries. Using machine learning and condition monitoring techniques can help in detecting faults early. Machine learning can be used effectively to detect faults in motors. This is important because fixing a fault in an induction motor at the right time can prevent losses. A machine learning white Box Algorithm approach is proposed to detect faults in induction motors. The approach uses algorithms to analyze vibration signals and learn important features from the frequency distribution of these signals. These features help understand the working status of the motor, including factors like current, voltage, speed, vibration and temperature. The information is then used in an IoT- based application for monitoring and updating. The approach combines feature automatically diagnose faults in motors. This helps in developing a system that can predict faults in a single-phase induction motor using various parameters and machine learning techniques. The system not only detects faults but also provides specific error codes, making it easier for technicians to quickly and accurately diagnose problems for efficient repairs.

412. AN ANALYTICAL STUDY OF BIRDS IDENTIFICATION THROUGH THE CLASSIFICATION TECHNIQUES BASED ON BIRDS CALL AND SONG

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This study focuses on a convolutional neural network-based deep learning approach for bird sound classification. The primary objective is to interpret the communication patterns of wild bird's species. It involves a comprehensive study on the field of bird bioacoustics, specifically targeting the segmentation of bird syllables from audio recordings and predicting the associated bird species for each identified syllable. Avian vocalizations are captured and transformed into mel-spectrograms, which are well-known for their similarity to human auditory perception. The CNN is trained to adeptly classify various bird sounds, allowing for predictive analysis of anticipated bird vocalizations. The study involves addressing challenges such as background noise, simultaneous vocalizations, and distinguishing between mating calls and songs. The procedural framework involves the initial stages of collecting and converting bird vocalizations into spectrograms. Mel Frequency Cepstral Coefficients (MFCCs) are applied to translate these spectrograms into human auditory signals, known as Mel-spectrograms. The study aims to extend the implementation of the trained model in sanctuaries, zoos, and wildlife areas. This contributes to the preservation and enhancement of biodiversity, bird migration, and mating periods based on their distinctive sounds, and potential threats leading to bird extinction.

413. ENHANCED ELECTRIC VEHICLE POWER MANAGEMENT SYSTEM WITH SUPER CAPACITOR

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The advent of electric vehicles (EVs) has ushered in a new era of sustainable transportation. However, addressing the dynamic power demands of these vehicles, especially during peak load scenarios, remains a critical challenge. This project presents an innovative solution: an Enhanced Electric Vehicle Power Management System with Super Capacitor- Based Auxiliary Load Support. The system employs an Arduino microcontroller as the central intelligence, orchestrating the seamless integration of a high-capacity Li Ion battery as the primary power source and a super capacitor as an auxiliary energy reservoir.The core objective is to efficiently manage high load demands in electric vehicles by utilizing the instantaneous power delivery capabilities of super capacitors. When the load demand exceeds the Lion batterys capacity, the system activates the super capacitor to bridge the power gap and ensure uninterrupted operation. This intelligent power management system not only enhances the overall performance of the electric vehicle but also contributes to extending the lifespan of the primary battery by mitigating stress during high-load scenarios. The proposed system represents a significant step towards improving the efficiency and reliability of electric vehicles, addressing the challenges associated with sudden spikes in power demand. By integrating a super capacitor as an auxiliary energy source, thisproject aims to pave the way for more sustainable androbust electric vehicle power management systems.

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414. CYSTIC FIBROSIS PREDICTION USING DEEP LEARNING

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Genetic disorders are the result of mutation in the deoxyribonucleic acid (DNA) sequence which can be developed or inherited from parents. Such mutations may lead to fatal diseases related to lungs, blood, etc. This study explores a lung disease called cystic fibrosis and its prediction using deep learning and genetic data. Through feature extraction and deep learning model training, it accurately predicts cystic fibrosis risk. Early identification enables personalized intervention strategies, advancing precision medicine. This approach harnesses genetic insights for proactive healthcare management, optimizing patient outcomes. This method uses genetic information to predict cystic fibrosis risk early on. By doing this, doctors can plan better treatments to help patients more effectively. Its like using genetic clues to make sure patients get the best care possible.

415. BONE TUMOR CLASSIFICATION USING GOOGLENET AND CAPSULE NEURAL NETWORK

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In response to the pressing need for heightened accuracy in bone tumor classification via medical imaging, this research proposes a novel approach by synergizing GoogleNet and Capsule Neural Networks (CapsNets). The aim is to bolster classification precision by amalgamating high-level features extracted from bone tumor images. The project began with meticulous curation and preprocessing of an extensive bone tumor image dataset. Following this, a bespoke CapsNet architecture tailored for the classification task was meticulously devised. While CapsNets excel in discerning intricate patterns from images, the incorporation of GoogleNet, distinguished for its adeptness in feature extraction, was intended to complement the CapsNet features. The fusion model underwent exhaustive training and evaluation processes, revealing significant efficacy in accurately categorizing bone tumors.

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Comprehensive experimentation underscored the superior performance metrics of the approach, indicating its potential to substantially enhance diagnostic accuracy in medical imaging applications. The culmination of these efforts led to an exceptional achievement, with the fusion model attaining an impressive accuracy rate of 88.7%. This remarkable outcome underscores the potency of capsule neural networks in advancing the precision and dependability of bone tumor classification in medical imaging. Consequently, this research contributes significantly to the realm of healthcare technology, offering promising avenues for augmenting patient care through enhanced diagnostic capabilities.

416. VISUAL BASED FIRE DETECTION USING YOLO V3 ALGORITHM

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Fires pose a persistent threat to both ecological systems and human lives, causing substantial economic and environmental damage. Instances of wildland fires have been recurrent, emerging as a significant global concern. Not only do these fires endanger lives, but they also result in extensive ecological and economic repercussions. Uncontrolled wildfires, in particular, present a substantial threat to residents. Statistics from the National Interagency Fire Center (NIFC) in the USA reveal a doubling of burned areas from 1990 to 2015. Similarly, Brazil reported a 77% year-to-year increase, with over 80,000 fires in 2019.Globally, wildfires occur approximately 222,000 times annually, covering an annual burnt area exceeding 6 million hectares.Addressing the pressing need for early fire detection, Deep Learning (DL) emerges as a crucial tool in achieving high accuracy in fire detection from images. This binary classification system is instrumental in identifying the presence of fire in images fed to the model. Robust detection systems are necessary to prevent loss of life and property due to fire accidents, which are a prevalent social concern. We provide a revolutionary solution that uses infrared pictures to combat the limitations ofexisting fire detection systems. By combining computer vision with powerful machine learning algorithms, our system achieves unmatched reliability and efficiency. To improve accuracy and make real-time implementation easier, our unique method uses a multi-faceted approach that includes brightness classification, image processing, and histogram-based segmentation.Our model is built on the cutting-edge object detection method YOLO V3 (You Only Look Once), which we use as a classifier. A binary cross-entropy loss function is used to assess the model's efficacy once it has learned critical parameters during training. The primary evaluation metric guiding our system is accuracy, aligning perfectly with our overarching project goal of achieving early and precise fire detection.Our proposed fire detection system represents a significant leap forward, not only addressing the limitations of existing systems but also introducing an entirely novel and efficient approach to fire detection. Through the integration of infrared images and cutting-edge machine learning techniques, we aim to revolutionize the landscape of fire detection, ensuring heightened effectiveness and reliability in safeguarding lives and property.

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417. PRECISION SALES FORECASTING USINGLGBM REGRESSOR

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In todays competitive market landscape, precise sales forecasting is indispensable for businesses seeking to optimize resource allocation, capitalize on market opportunities, and maintain a competitive edge. Traditional forecasting methods often fall short in accurately predicting sales figures, leading to suboptimal decision-making and resource allocation. To address this challenge, this paper proposes a framework for precision sales forecasting using the LightGBM (LGBM) regressor. The proposed framework leverages historical sales data, market trends, and external factors to generate highly accurate sales forecasts. The framework automates the forecasting process, allowing businesses to make informed decisions based on data-driven insights. Unlike conventional forecasting methods, which may overlook subtle patterns and fluctuations in sales data, the LGBM regressor excels in capturing complex relationships and non-linear trends, resulting in more accurate forecasts.To evaluate the performance of the proposed framework, extensive experimentation and validation are conducted using real-world sales data. The results demonstrate the superior accuracy and reliability of the LGBM regressor in predicting sales figures across different time horizons and business contexts.Furthermore, the frameworks scalability and efficiency make it well-suited for handling large-scale datasets and real-time sales forecasting. In conclusion, precision sales forecasting using the LGBM regressor represents a significant advancement in the field of predictive analytics, empowerin businesses to make informed decisions, optimize resource allocation, and achieve sustainable growth in todays dynamic market environment.

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418. PULSED ELECTRIC FIELD FOR ENHANCED NUTRITION IN MILK

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The main objective of this project is to maintain the nutritional status of milk and microbial inactivation of microbes(i.e, Acinetobacter spp. and spoilage bacteria Pseudomonas spp.) by providing short electric pulse.The inactivation preserved the milk's characteristics and physical stability.Pulsed Electric Field (PEF) innovation has arisen as a promising technique for working on the wholesome nature of milk while saving its newness and timeframe of realistic usability.It gives outline of the standards of PEF innovation and its application to work on the dietary properties of milk. Milk and other liquid foods are subjected to brief, high-voltage electrical pulses during the PEF treatment. These pulses destroy cell structures without significantly altering the sensory properties of the cells. PEF treatment consistently impacts the proteins, nutrients, minerals, and compounds found in milk supplements.It has been demonstrated that PEF treatment enhances certain of the nutrients bioavailability, functional characteristics, and digestibility in milk proteins.

419. PROJECT TITLE: CONTEXTUALIZED LANE DETECTION USING ATTENTION-BASED FULLY CONVOLUTIONAL NETWORK FOR ROBUST VARIENT DRIVING SCENES

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Lane detection is an important foundation in the development of intelligent vehicles.An increasing safety and reducing road accidents, thereby saving lives are one of great interest in the context of Advanced Driver Assistance Systems. Apparently, among the complex and challenging tasks of future road vehicles is road lane detection or road boundaries detection. Firstly, converting the distorted image and using the superposition threshold algorithm for edge detection, an aerial view of the lane was obtained via region of interest extraction and inverse perspective transformation. Secondly, the random sample consensus algorithm was adopted to fit the curves of lane lines based on the third- order B-spline curve model, and fitting evaluation and curvature radius calculation were then carried out on the curve. Lastly,by using the road driving video under complex road conditions and the Tusimple dataset.The experimental results show that the average detection accuracy based on road driving video reached 98.49%, and the average processing time reached 21.5 ms. The average detection accuracy based on the Tusimple dataset reached 98.42%, and the average processing time reached 22.2 ms. Compared with traditional methods and deep learning-based methodologies, this lane detection algorithm had excellent accuracy and real-time performance, a high detection efficiency and a strong anti-interference ability. The accurate recognition rate and average processing time were significantly improved. The proposed algorithm is crucial in promoting the technological level of intelligent vehicle driving assistance.

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420. FOOD TOKEN BLOCKCHAIN APPLICATION

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This case study looks at the problem of providing tokens in canteens. The basic problem in the food service industry is that canteen management is not realizing efficiencies that would result from better applications of technology in their daily operations. Every canteen has a counter where you can get a token. So every canteen needs an employee for providing tokens. Labor rates are increasing every now and then and it is difficult to find employees in the middle of the highway, hence to solve this problem we plan to design a & Food Token Application Our approach is to provide tokens in a decentralized way where the canteen directly sends virtual tokens to the person and the person can transfer the token and redeem his/her food. This application is done using hyperledger fabric. The application runs in a blockchain and each transaction is stored in blocks. As all the token transactions are stored in the block the user can trust the application. The users can have privacy and confidentiality in using the application. This application also helped me to improve my skills in the blockchain. It was a great start for me in hyperledger.

421. EMOTION DETECTION USING VGS MODEL IN DEEP LEARNING

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This project focuses on leveraging deep learning, particularly Convolutional Neural Networks (CNNs), to detect emotions from speech signals. Traditional methods for emotion detection face challenges in capturing the complexity of human emotions. By converting audio signals into image representations, this project aims to enhance the interpretability and generaliza-tion of emotion detection systems. Key objectives include pre-processing audio data, designing optimized CNN architectures,and evaluating model performance on benchmark datasets. By addressing challenges such as class imbalances and noise in speech data, the proposed approach aims to improve reliability and accuracy in emotion classification. Comparison with baseline methods will further validate the effectiveness of the devel-oped system. Overall, this research seeks to advance emotional speech detection through deep learning techniques, with potential applications in psychology, human-computer interaction, and sentiment analysis.

422. SMART HOUSE MANAGEMENT AND OPTIMIZED SCHEDULING METHOD FOR PEAK HOUR DEMAND

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The IoT based smart home management and Control focuses on the effective utilization of electricity in the increased usage of devices in the modern era. The smart grid represents a transformative paradigm shift in modern power distribution systems, integrating advanced technologies to enhance efficiency, reliability, and sustainability. Central to this transformation are shiftable and non-shiftable electric devices, pivotal components in shaping the grids operational dynamics. This abstract provides an insight into the functioning and implications of shiftable and non-shiftable electric devices within the context of the smart grid. Shiftable devices allow for flexible energy consumption scheduling, optimizing resource utilization and load management, while non-shiftable devices maintain constant demand and require immediate power supply

423. A COMPREHENSIVE REVIEW ON BREAST CANCER DETECTION METHODS

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Breast Cancer is the most mutual cancer in women in India. 30% of all new cancers noticed in women in India in the year 2021, were breast cancers. An estimated 5,74,000 women were newly spotted with breast cancer, in India, for the year 2021. Automated mammogram analysis has emerged as a capable approach for improving breast cancer detection, a critical aspect of early diagnosis and treatment. This review explores recent advancements in the field of automated mammogram analysis, focusing on the integration of artificial intelligence (AI) and machine learning techniques. The review provides an overview of the image acquisition process, preprocessing steps, feature extraction methods, and machine learning algorithms utilized in automated mammogram analysis. It discusses the challenges and opportunities associated with the development and implementation of these technologies, including the need for large-scale validation studies, addressing algorithm bias, and ensuring patient privacy and data security.

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38	PSNACET, DINDIGUL
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