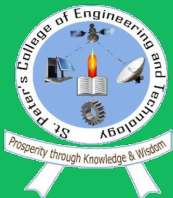**YEAR 2024**

International Conference on

Recent Trends in Electrical, Electronics and Communication Engineering

DATE

15.05.2024

Jointly Organized by

DEPARTMENTS OF ECE & EEE

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Proceedings of

INTERNATIONAL CONFERENCE ON RECENT TRENDS IN

ELECTRICAL, ELECTRONICS AND COMMUNICATION ENGINEERING

15th May 2024

ICRTEECE-2024

Editors

Dr. A. Swarnalatha, Prof. & Head-ECE

Dr. V. Vanitha, Prof & Head-EEE

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MESSAGE FROM CHIEF PATRON

Dr. T. BANUMATHY

I am delighted to announce that the Departments of Electrical and Electronics Engineering and Electronics and Communication Engineering are organizing an International Conference on Recent trends in Electrical, Electronics and Communication Engineering, **"ICRTEECE-2024."** This event is highly relevant, given the significant role that **Electrical, Electronics and Communication Engineers** play with their innovative thinking and emerging talents.

St. Peter's College of Engineering and Technology is committed to impart a progressive contribution to the world which is advancing rapidly in various dimensions to meet technical and scientific requirements of people across the globe, hence it's crucial for students and professionals to reflect on their performance and share their knowledge. Intensive coordination and collaboration are essential for effectively applying technology in real-life scenarios.

As the calendar for 2024 fills up with activities and events, I encourage everyone to stay engaged, participate actively, volunteer, and contribute ideas. I am confident that this conference will highlight the importance of sharing innovative ideas through its various events.

I wish **ICRTEECE-2024** great success and look forward to its impactful outcomes.

MESSAGE FROM TRUSTEES

Dr. T. Namratha   **Dr. T. Lasya**

We are excited to host this internal conference on recent trends in Electrical, Electronics and Communication Engineering. At St. Peter's College of Engineering and Technology, we are deeply committed to imparting the invaluable wealth of education to our students. Our mission is to develop a socio-economic ecosystem that leads our country towards self-sustenance. The management strives to fortify the teaching and learning systems, with the goal of positioning our institution as one of the premier educational establishments in the nation. This event is a testament to our ongoing commitment to academic excellence and our dedication to staying at the forefront of technological advancements. This reflects our commitment to fostering an atmosphere of innovation, leadership, and the development of interpersonal skills. We consider it our moral obligation to enable our students and participants to face the challenges posed by the new world order.We are delighted to bring together renowned experts, scholars, and industry professionals from around the globe to share their knowledge and insights on recent trends in Electrical, Electronics and Communication Engineering. This gathering provides a unique platform for the exchange of ideas, collaboration, and the advancement of technology.

We extend our gratitude to all the participants, speakers, and organizing committee members for their contributions to making this conference a success. We hope this event will inspire new ideas, foster meaningful collaborations, and contribute to the ongoing advancements in our field.

MESSAGE FROM SECRETARY

Mr. K. PRABHU

It is with great pride and excitement that I welcome you to the International Conference on Recent Trends in Electrical, Electronics and Communication Engineering, hosted by St. Peter's College of Engineering and Technology. In today's fast-paced world, keeping up with the latest advancements in our fields is vital. This conference provides a crucial platform for sharing innovative ideas, groundbreaking research, and the latest developments in Electrical, Electronics and Communication Engineering. Our aim is to encourage collaboration, spark new research directions, and tackle the challenges and opportunities that lie ahead. St. Peter's College of Engineering and Technology is dedicated to fostering an environment that promotes intellectual growth and technological advancement. By uniting scholars, industry professionals, and students from around the world, we aim to create a dynamic atmosphere that encourages learning and innovation. This event exemplifies our commitment to academic excellence and our ongoing efforts to lead in technological progress. I sincerely thank all the keynote speakers, presenters, and participants for their invaluable contributions. I am confident that your insights and expertise will greatly enhance our discussions and inspire further advancements in our field. Additionally, I would like to express my appreciation to the organizing committee for their tireless efforts in bringing this conference to fruition.

Let us seize this opportunity to connect, collaborate, and contribute to the future of Electrical, Electronics and Communication Engineering. Together, we can drive progress and make significant advancements towards a better and more technologically advanced world.

MESSAGE FROM PATRON

Dr. S. POORNACHANDRA

It is with great pleasure, honour, and a sense of opportunity that I welcome you to the International Conference ICRTEECE'24. This meeting comes at a critical juncture in our planet's history, as humanity faces the urgent need to address and mitigate the impending global disaster posed by severe climate changes. Central to tackling these global challenges are new materials and innovative advancements in Electrical, Electronics and Communication Engineering aimed at producing cost-effective fuels from renewable energy sources.

This event promises to be a pivotal platform, bringing together leading researchers, scientists, and industry professionals to exchange insights and drive innovation across various disciplines. It is in these smaller, more interactive conferences where our research and ideas truly flourish. Everyone gets a chance to present, be heard, interact, and forge new professional connections.

Moreover, I emphasize that ICRTEECE'24 will serve as a catalyst for networking and collaboration, offering our students a unique opportunity to engage with industry professionals and academic luminaries. I eagerly anticipate your enthusiastic involvement and meaningful contributions to ensure that ICRTEECE'24 is a resounding success

ABOUT THE INSTITUTION

St. Peter's College of Engineering and Technology is a co-educational college established by Lakshmi Saraswathi Educational Trust in the year 2008. The college aims to impart training to students to develop their intellectual powers, identify and cultivate interest, and train them to become responsible and eminent citizens of India. The institution is spread over a sprawling campus with its calm surroundings, creating a study atmosphere. The invigorative and serene milieu of the institution is conducive to higher education. Our college is accredited by NAAC with A^+ and is an ISO 9001:2015 certified unit. We have 43 university ranks to our credit.

The college runs the following programme:

- B.E. (Artificial Intelligence and Data Science)

- B.E. (Civil Engineering)

- B.E. (Computer Science & Engineering)

- B.E. (Electronics & Communication Engineering)

- B.E. (Electrical & Electronics Engineering)

- B.E. (Mechanical Engineering)

- B.Tech.(Biotechnology)

- B.Tech.(Chemical Engineering)

- B.Tech.(Information Technology)

- M.B.A.

- M.E. (Computer Science & Engineering)

- M.E. (Structural Engineering)

ABOUT THE DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

The ECE department is dedicated to enhance innovative engineering society, start-up, entrepreneurs and higher study with research. It is enriched with well-equipped laboratories and highly qualified experienced faculty members. The budding engineers from this department are employed in core and software companies in private and government sector. Our alumni are placed in Infosys, Cognizant Technology Solutions, HCL Technologies, TCS and IBM, Accenture Solutions, Amazon, Wipro, Flextronics Technologies, Tech Mahindra, Ericsson India etc. Our student also placed in Public sector units like BSNL, ISRO, DRDO, CSIR and NIT Delhi, etc. Many of our students pursue their higher studies in foreign universities in UK, USA and Ireland etc. to receive their MS, MBA and PhD degrees. The ECE department has signed MOU with reputed industries for student Internship and In-plant training, Guest Lecture, Research Seminar. Leadership qualities and knowledge enhancement to students are encouraged by organizing various events through IEEE student chapter.

ABOUT THE DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

The Department of Electrical and Electronics Engineering was established in the year 2009-10. The Department provides quality learning environment, in terms of inspiring teachers, state-of-the-art facilities, sharing and widening the knowledge. Major areas of faculty expertise of the department include power systems, power electronics, embedded systems, electrical machines and high voltage engineering. Students are trained in different laboratories such as Renewable Energy System lab, Power Electronics lab, Electrical Machines lab, Control and Instrumentation lab, Power System Simulation lab and Electronic Devices and Circuits lab to prepare them to meet the needs of latest technology. Faculty and students published papers in various reputed international journals and presented papers in a number of international conferences. Faculty members have membership in professional societies such as IEEE, IEI and ISTE. Students of the department secured university ranks and got placed in reputed core and IT companies. Students are motivated to attend in-plant training and do industrial projects. Our students participated in co-curricular, extra-curricular and extension activities and have brought laurels to the institution.

ABOUT THE CONFERENCE

The aim of the conference is to provide a platform where researchers in industry and academia can share their expertise through presentations and discussions in different fields. This conference may play a crucial role in upgrading knowledge, promoting innovation, exchanging ideas and forging collaborations among the participants. The technical program of the conference will include keynote address by eminent people and paper presentations by the participants, which provide valuable insights to both the academic and industry updates in the field of Electronics and Communication Engineering and Electrical and Electronics Engineering. This conference includes a wide range of topics, including academic disciplines, scientific research, technology, and beyond. The objectives include the following:

- Facilitate the dissemination of recent scientific advances and emerging trends.
- Provide a platform for networking among professionals, researchers, and academicians.
- Share cutting-edge research and development efforts.
- Encourage interdisciplinary research and innovative solutions.
- Showcase the latest technological advancements and applications.
- Discuss the impact of new technologies on industry practices and future research directions.
- Offer workshops, tutorials, and keynote sessions to improve knowledge and skills.
- Provide opportunities for young researchers and students to present their work and receive feedback.
- Foster collaboration between academic institutions and industry.
- Explore the role of industry-academic partnerships in driving innovation.
- Discuss the role of Electronics and Communication Engineering and Electrical and Electronics Engineering in achieving sustainable development goals (SDGs).
- Support the publication of high-quality research papers and findings.
- Provide a platform for the global dissemination of research work and innovative ideas.

CONFERENCE TOPICS

- Smart Grids and Energy Management Systems

- IoT and Industrial Automation

- 5G and Beyond: Communication Technologies

- Artificial Intelligence and Machine Learning in Engineering

- Renewable Energy Technologies and Integration

- Robotics and Autonomous Systems

- Advanced Sensor Networks and Applications

- Embedded Systems and Real-Time Applications

- Nanotechnology and Microelectronics

- Cybersecurity in Communication Networks

- Advanced Signal Processing Techniques

- Quantum Computing and Quantum Communication

- Wireless Power Transfer and Energy Harvesting

- High-Frequency and Microwave Engineering

- VLSI Design and Technology

- Optical and Photonic Communication Systems

- Biomedical Electronics and Wearable Devices

- Advanced Control Systems and Applications

- Vehicular Technology and Smart Transportation Systems

- Sustainable Electronics and Green Technologies

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INDEX

JOINT PAPR AND SPECTRUM SENSING IN CRNS: A VLSI-BASED APPROACH FOR SECONDARY USER INTEGRATION

P. Sangeetha[1], P. Shanmuga Sundaram[2], M.Vasanthi[3]

Department of Electronics and Communication Engineering

Knowledge Institute of Technology, Salem

Abstract

In Cognitive Radio Networks (CRNs), Peak-to-Average Power Ratio (PAPR) reduction is crucial for mitigating signal distortion and enhancing spectral efficiency. This paper presents a novel approach that leverages VLSI (Very-Large-Scale Integration) design methodologies to achieve efficient PAPR reduction in CRN systems, particularly when incorporating secondary users. The proposed technique explores VLSI techniques for PAPR reduction such as pre-distortion, clipping and filtering, coding, and partial transmit sequence (PTS) techniques. By implementing these techniques in VLSI hardware, the system can achieve real-time PAPR reduction while maintaining low power consumption and compact size, making it suitable for CRN applications. Furthermore, the paper addresses the challenge of integrating secondary users into CRNs while maintaining PAPR control. This may involve specific methods for PAPR control with secondary users, e.g., dynamic power allocation, user scheduling algorithms, or joint PAPR and spectrum sensing techniques. The effectiveness of the proposed approach is evaluated through simulations and hardware prototyping. The results are expected to demonstrate significant PAPR reduction, improved spectral efficiency, and seamless integration of secondary users in CRN environments.

Keywords: *Cognitive Radio Networks (CRNs), Peak-to-Average Power Ratio (PAPR), VLSI, PAPR reduction techniques, secondary users*

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MODERNIZING ATTENDANCE MANAGEMENT WITH FACIAL RECOGNITION TECHNOLOGY

K.Gokila[1], B.Shanthini[2], S.Pushpa[3]

Department of Computer Science Engineering

St.Peter's Institute of Higher Education And Research Chennai, India

Abstract

Identifying individuals through facial features is a fundamental aspect of human interaction. This ability can be replicated through automated systems known as Face Recognition Systems (FRSs). FRS typically involves two key steps: face detection and facial recognition. Face detection locates faces within an image, while facial recognition aims to identify the individual depicted. Convolutional Neural Network has (CNN) emerged as a powerful tool for achieving robust and accurate FRS. CNNs excel at automated feature extraction from images, learning to identify crucial facial characteristics even in challenging scenarios with variations in pose, lighting, or expression. This explores the application of CNNs in facial recognition, highlighting their advantages over traditional methods that rely on hand-crafted features.

Keywords: *Face Recognition Systems (FRSs), Deep Learning, Computer Vision, Facial Analysis*

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MACHINE LEARNING-BASED DETECTION AND FORECASTING OF AIR QUALITY

J. Stephan[1], B. Shanthini[2], K Cornelius[3]

Department of Computer Science Engineering

St.Peters Institute of Higher Education and Research, Chennai, India

Abstract

In densely populated and developing nations, the regulation of air quality is considered a crucial responsibility by governmental authorities. Various factors, such as meteorological conditions, traffic patterns, combustion of fossil fuels, and industrial parameters, including emissions from power plants, play a crucial role in the occurrence of air pollution. Particulate Matter 2.5 (PM 2.5) is a significant factor in air quality and requires careful consideration due to its detrimental effects on human health at higher concentrations. Considering this matter, it is crucial to maintain a constant vigilance and regulation of PM 2.5 levels in the atmosphere. This paper utilises logistic regression to determine if a given data sample signifies contaminated or uncontaminated air. Furthermore, auto-regression is employed to predict upcoming PM 2.5 values using previous readings. This knowledge allows us to take proactive measures to ensure that the levels remain below harmful thresholds. The proposed system focuses on predicting PM 2.5 concentrations and evaluating air quality using a dataset that includes daily atmospheric conditions for a specific city. With a meticulous and scholarly approach, this research makes a valuable contribution to the ongoing efforts in mitigating air pollution and protecting public health.

Keywords: Uncontaminated, Particulate Matter, Traffic patterns, Air quality

EMPOWERING OFF-GRID SOLUTIONS: ENGINEERING AN INVERTER FOR STANDALONE PHOTOVOLTAIC SYSTEMS WITH ENHANCED PERFORMANCE AND RELIABILITY

V.S. Veena[1], G.Deepika[2]

[1]Department of Electrical and Electronics Engineering, St Peters College of Engineering and
Technology, Chennai

[2]Department of Electrical and Electronics Engineering, Gojan School of Business and
Technology, Chennai

Abstract

Electricity has become a cornerstone of national development in recent years. However, the reliance on non-renewable fossil fuels is proving inadequate, given the soaring oil prices, exacerbation of global warming, and the toll on ecosystems. Consequently, there's an urgent need to explore alternative energy sources that offer high efficiency and sustainability. Solar energy emerges as a viable solution in this regard, which is harvested from the sun using solar panels composed of semiconductor cells known as PV cells. The solar panels can be set up either as standalone systems or integrated into the grid, providing versatility in energy distribution. This paper aims to develop and deploy an efficient charge control system utilizing both a converter and an inverter. The goal is to enhance the battery's charging and discharging processes, resulting in an innovative charge control scheme.

Keywords: *PV array, Buck converter, Full bridge inverter, Simulink, Charge controller, Battery*

AN IOT BASED AUTOMATED SELECTION OF THREE PHASE SOURCE SWITCHING AND MONITORING SYSTEM

D. Dhoshidharan[1], P. Saravanan[2]

[1]Transerect Testing and Commissioning Engineers Pvt. Ltd., Chennai

[2]Department of Electrical and Electronics Engineering, St Peters College of Engineering and Technology, Chennai

Abstract

It is known that the technological advancements are increasing at a faster pace, but the utilization of technologies in various sectors is very low. It is commonly known that the power supply in our homes are not stable. Sometimes the supply drops down than the required voltage level. In such case, the three phase connection is manually changed to get uninterrupted supply. Here, a system is proposed where an automatic switching of the supply is done. This system overcomes the manual work done by the humans and also time consumption is overcome by this system. The user can also change the source supply from anywhere using IOT. All the data's about the system are updated to the server using IOT, which shows the present details of the Power supply and load monitoring system

Keywords: IoT, Distribution system, Phase identification, PIC microcontroller, Relay, MPLAB

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BATTERY LIFE PREDICTION AND EXPLOSION PREVENTION IN ELECTRIC VEHICLES

N. Mohammed Javid Jafir[1], B. Kirthivasan[2], R. Hemalatha[3]

Department of Electronics and Communication Engineering

Sri Sivasubramaniya Nadar College of Engineering, Chennai

Abstract

The increasing demand for fossil fuels has led to a rise in interest in alternative transportation methods, particularly electric vehicles (EVs). However, EVs lack proper safety systems, and incidents of battery explosions have occurred in the past. To address this issue, IoT and machine learning algorithms can be utilized to predict safety conditions and estimate the lifetime of EV batteries. Sensors can be deployed to measure various parameters affecting the battery's health, such as voltage, current, resistance, temperature, and smoke. By collecting this data, secondary parameters like state of charge, state of health, remaining useful lifetime (RUL), and battery capacity are predicted using random forest repressor algorithm with reduced error in prediction. The model has achieved an accuracy of 98% without being over fit. The primary intention of this work is to prevent accidents by alerting users when EV batteries have a low state of safety (SoS) and encouraging them to replace the batteries to ensure safe and efficient use of electric vehicles in all environments.

Keywords: Electric vehicles, IoT, Machine learning, Battery health, State of health and RUL

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FAKE VIDEO DETECTION USING DEEP LEARNING TECHNIQUE

A.Keerthivasan[1], A. Duvaarak Prasanna[2], S. Hanis[3]

Department of Electronics and Communication Engineering

Sri Sivasubramaniya Nadar College of Engineering, Chennai

Abstract

The proliferation of high-quality video content and advanced editing software has blurred the lines between real and fake videos, making it increasingly difficult to discern between the two. This has fueled the spread of misinformation and propaganda, as fake videos can be used to manipulate public opinion and disseminate false information. Researchers are exploring various techniques to differentiate fake from original videos, including analyzing video metadata, identifying inconsistencies, and employing machine learning algorithms. One common approach involves using convolutional neural networks (CNNs) to extract features from video frames, which can then be used to train a classifier to distinguish between real and fake videos. However, no foolproof method exists, as fake video creators continuously refine their techniques. Critical evaluation of video content is crucial. By staying vigilant and adopting a critical mindset, individuals can better identify fake videos and minimize the spread of misinformation.

ISSUES AND CHALLENGES IN SOCIAL MEDIA SECURITY

Fathima Rinosa[1], B. Shanthini[2], Sulochana[3]

[2]Department of Computer Science Engineering, St.Peters Institute of Higher Education and
Research Chennai, India

[1,3]Anna Administrative Staff College, Chennai, India

Abstract

Social media's introduction has completely changed how businesses, employees, and stakeholders communicate with each other in the field of organisational dynamics. Given the immense amount of information being exchanged on these platforms, it is crucial to prioritise the protection of this valuable asset. Despite the increasing concern among companies about information security in social media, there is a significant lack of research addressing this issue. This study seeks to address the gaps in knowledge surrounding the impact of social media on organisational information security. Conducted as a qualitative multiple case study, this research involved information security managers from eleven public and private companies within a European context. The findings of the study highlight three important insights. Firstly, the actions or inadvertence of employees in social media, particularly those related to reputation damage, pose significant threats to information security, surpassing external attacks. Additionally, the merging of personal and professional aspects on social media can pose a significant information security threat. Differentiating between these roles becomes more challenging as an employee's position within the company changes. Lastly, communication with employees and colleagues can pose a significant information security challenge, especially when there is a lack of company oversight. The findings have significant implications for both research and practical applications, leading to a need for further exploration into the complexities of information security in the current era of widespread social media use within organisational contexts.

Keywords: *Expertise in social media, security of data, and case studies*

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RECYCLING OF LITHIUM IRON PHOSPHATE BATTERY

P.Sriram[1], S.Sri Lakshidha[2], S.C.Vijayakumar[3], V.Vanitha[4]

Department of Electrical and Electronics Engineering

St.Peter's College of Engineering and Technology, Chennai

Abstract

The use of lithium batteries has increased dramatically in recent years as the electric vehicle sector has grown. The increasing use of lithium batteries in a variety of applications, including consumer electronics, electric vehicles, and energy storage systems, results in a large number of used batteries. Between 2015 and 2040, the manufacturing of lithium-ion batteries for electric vehicles might reach 0.33 to 4 million tons. Spent lithium batteries can pollute the land and endanger public safety and property. They include valuable non-renewable metals such as cobalt and lithium, and their recycling and treatment provide significant economic, strategic, and environmental benefits. According to estimates, the weight of used lithium batteries for electric vehicles will exceed 500,000 tons by 2020. There has been extensive research on methods for safely and effectively recycling lithium batteries so that they can contribute to economic development. Recycling is a viable technique for managing lithium batteries near the end of their life cycle, taking into account environmental sustainability and circular economy concepts. This paper describes how direct recycling technology emerges as a feasible method for processing wasted lithium phosphate battery cathode and anode materials. Direct recycling recovers and recycles the anode, cathode, and separator for a variety of applications

Keywords: *Lithium iron phosphate battery, Recycling, Cell holder, Cleaning, Charging, good cell, BMS*

A NOVEL OPTIMIZED HYBRID DEEP LEARNING FRAMEWORK FOR FAULT DETECTION IN TRANSMISSION LINES

V.Vanitha[1], W.Vinil Dani[2], V.Nandhinipriya[3]

Department of Electrical and Electronics Engineering

St.Peter's College of Engineering and Technology, Avadi, Chennai

Abstract

Transmission lines are principal components of a modern power system and hence it is very much necessary to safeguard them. Any type of fault occurring in the transmission line can lead to an unwanted disruption in the power supply. Nearly 85 to 87% of power system faults are contributed by transmission lines, and hence accurate identification of these faults are significant to achieve reliable power system. Therefore, fault detection and classification is very essential to minimize the interruption due to the faults. This paper presents the fault identification method by Phasor measurement unit (PMU) combined with Ensemble Learning (EL) classifier. Also, the proposed hybrid model is combined with the Deep Learning (DL) concept to predict and classify the different types of faults successfully under various conditions. Here, nine bus system is considered for the study and the entire simulation is done with the help of MATLAB/Simulink, whose results show superior performance in categorizing the line faults.

Keywords: Phasor measurement unit, transmission line, ensample classifier, deep learning, fault detection and classification

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EXPLORING GESTURE TECHNOLOGIES FOR DISABILITIES IN INTEGRATION WITH IOT

S Princy Jeya Pauline[1], Arishni Suresh[2], W.Vinil Dani[3], V. Nandhini priya[4]

[1,2]Department of Bio Technology, St.Peter's college of Engineering and Technology, Chennai

[3,4]Department of Electrical and Electronics Engineering, St.Peter's college of Engineering and Technology, Chennai

Abstract

Gesture builds up a person's Self -Esteem. This study examines the varying patterns of gesture technologies used across different countries to understand the impact of it on disabled people. The proposed technology is based on Eye Blink gesture using Internet of Things. The comparative study of various methodologies and their findings show that eyes speak better than words. This vital technique is benefited for leg or hand amputated person, deaf and dumb and any other such physically challenged persons. Electrooculogram records corneal retinal potential associated with movements in eye and the signal is processed as a command for control purpose.

Keywords: Eye blink, Appliances, Microcontroller, Electrodes, EOG

MULTI-INDEX BASED CLASSIFICATION APPROACH FOR BUILDING EXTRACTION FROM REMOTE SENSING IMAGERY

Avudaiammal Ramalingam[1], Sam Varghese George[2], P. Rivekka Maruty[3], A.Sruthi[4]

Department of Electronics and Communication Engineering,

St. Joseph's College of Engineering, Chennai

Abstract

Building extraction plays a significant role in many high-resolution remote sensing image applications. In order to carry out the building extraction using machine learning, human experts need to derive the dataset which is computationally intensive. To overcome these drawbacks different approaches have been carried out by researchers. In the proposed work, supervised classification algorithm such as cosine KNN, quadratic discriminant, linear SVM, quadratic SVM, cubic SVM, binary GLM Logistic Regression are trained using a few significant spectral features such as Normalized Difference Vegetation Index, Normalized Difference Building Index and Morphological Filtering Building Index and geometrical features are used to classify every extracted segment as buildings and non buildings. The proposed method with binary GLM logistic regression provides better performance in terms of accuracy, precision and recall, which are about 99.3%, 98% and 98.8% respectively. Thus the results proved that, the proposed method can be employed to extract the buildings effectively.

Keywords: Building extraction, NDVI, NDBI, MFBI, Machine learning

STREAMLINING PLANNING, COORDINATION, AND EXECUTION FOR SEAMLESS EVENT EXPERIENCES USING COMPREHENSIVE EVENT MANAGEMENT SYSTEM (EMS)

P.Ramya[1], B.Shanthini[2], M.Charumathy[3]

Department of Computer Science Engineering,

St Peter's Institute of Higher Education and Research

Chennai

Abstract

An all-inclusive software program called an Event Management System (EMS) is made to make the efficient planning, arranging, and carrying out of different types of events easier. Numerous functions are available with this system, such as the ability to schedule events, register attendees, manage venues, track budgets, provide communication tools, and generate reports. To guarantee flawless event execution, EMS seeks to automate tedious procedures, improve coordination amongst event planners, and offer real-time information. Through the integration of many functionalities into a unified platform, EMS enables organizers and attendees to maximize resources, reduce mistakes, and provide outstanding experiences.

Keywords: Event management system, Event scheduling, Communication tools, venue management, Django web framework

A SMART HEALTH CARD APPLICATION FOR ENHANCING HEALTHCARE ACCESSIBILITY AND EFFICIENCY THROUGH CLOUD-BASED DATA MANAGEMENT AND QR CODE TECHNOLOGY

W. Monica Mercy[1], B. Shanthini[2], M.B.A. Salai Aaviyamma[3]

Department of Computer Science Engineering

St Peter's Institute of Higher Education and Research, Chennai

Abstract

The way that technology is used in daily life has drastically changed the way that healthcare data management is practiced. This paper examines how technical developments have affected the gathering, processing, storing, and evaluating of medical data, with a focus on poor nations. Ensuring the accountability, tracking, recording, and analysis of patient data across varied healthcare settings has become more difficult due to the population's exponential rise. A model for combining patient medical data from different healthcare settings, such as family doctors, private clinics, emergency rooms, transportation, and hospital systems, is necessary to overcome this difficulty. Using cloud database solutions, which provide centralized storage and authentication, is an effective way to put such a strategy into practice. Additionally, the use of Quick Response (QR) code technology makes it possible for healthcare practitioners to securely share patient IDs, which in turn makes it easier for them to make well-informed decisions by providing access to thorough medical information. The importance of technology interventions in transforming healthcare data management and enhancing patient care outcomes is emphasized in the proposed work.

Keywords: Patient management system, Patient access, Doctor access, Smart health card, Android medical app

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OPTIMIZING THE UTILIZATION OF DATA ANALYTICS FOR A SMART AUDIT

R.A.Veshal Varthan[1], B.Shanthini[2]

Department of Computer Science Engineering

St. Peter's Institute of Higher Education and Research, Chennai

Abstract

An important component of auditing, cost reduction and performance quality improvement are
investigated in this study. Ignoring the use of digital audit via information technology avoids shortages of some human resources and hence affecting performance quality and costs. The researchers' main suggestion is to train auditors in effective IT use to save expenses and save time and effort while performing.

Keywords: *Digital Audit, Reduce Cost, Performance Quality*

A BRIEF REVIEW ON WORD EMBEDDING TECHNIQUES IN CONTEXTUALIZED NATURAL LANGUAGE PROCESSING

S. Subi[1], B. Shanthini[2]

Department of Computer Science Engineering

[1]R.M.K. College of Engineering & Technology, Thiruvallur

[2]St. Peter's Institute of Higher Education and Research, Chennai

Abstract

Word embeddings are a sort of word representation that integrates meaningfully human and automated knowledge processing. A group of real numbers could serve as vector representations. Word embeddings are sporadic representations of a text in n-dimensional space that aim to convey the meanings of the words. It is necessary to contemplate the different senses of a word to get a good representation of the word. This paper discusses the problems such as Meaning Conflation Deficiency, Word Sense Disambiguity (WSD), and different word embedding techniques like One-hot Vectorizing, Continuous Bag of Words (CBOW), Skip-gram, TF-IDF, FastText, Glove, and BERT that have been introduced over the past few years to solve those problems.

Keywords: *Word Embeddings, Natural Language Processing (NLP), Vocabulary, Corpus, Vectorization*

INTERNATIONAL CONFERENCE ON RECENT TRENDS IN ELECTRICAL , ELECTRONICS AND COMMUNICATION ENGINEERING (ICRTEECE'24)

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Affiliated to Anna University- Approved by AICTE-
Avadi, Chennai, Tamil Nadu, 600 054.