Dr.M.G.R.
EDUCATIONAL AND RESEARCH INSTITUTE
DEEMED TO BE UNIVERSITY
University with Graded Autonomy Status
(An ISO 21001 : 2018 Certified Institution)

ACCREDITED WITH GRADE A+ NAAC

E.V.R Periyar Salai (NH4 Highway), Maduravoyal, Chennai, Tamil Nadu-600095

The Proceedings of 10th National Conference
on

MATRIX

M-Machine Learning A-AI T-Transfer Learning R-Robotics I-IoT X-XAI(Expandable AI)

NCICT'25

Organized by

Department of Computer Science and Engineering

07th & 08th April 2025

Proceedings of the

10th National Conference

on

INNOVATIVE COMPUTING TECHNIQUES

(NCICT'25)- MATRIX

Machine Learning, AI, Transfer Learning, Robotics, IoT, and Explainable AI

7th & 8th April 2025

Organized by

Department of Computer Science and Engineering

Proceedings of the Abstracts

ABET

Dr. M.G.R. EDUCATIONAL AND RESEARCH INSTITUTE
DEEMED TO BE UNIVERSITY
University with Graded Autonomy Status
(An ISO 21001 : 2018 Certified Institution)
Periyar E.V.R. High Road, Maduravoyal, Chennai-95, Tamilnadu, India.

A+ NAAC

NBA

March 2025

ISBN 978-81-979985-1-5

Published By
Department of Computer Science and Engineering

MESSAGE FROM PRESIDENT'S DESK

Er.A.C.S.Arunkumar

President

I am delighted to share the recent accomplishments of the **Computer Science and Engineering Department**. Through the collective efforts of faculty members and students, the department has successfully organized a series of events, workshops, and conferences.

A key highlight was the successful hosting of the **National Conference on Innovative Computing Techniques (NCICT'25-MATRIX)**. This prestigious event served as a platform for exploring cutting-edge solutions in the digital era, fostering collaboration among experts and enthusiasts.

I extend my heartfelt congratulations to the Department of Computer Science on the successful release of the souvenir at **NCICT'25**. Such initiatives play a crucial role in advancing research, innovation, and knowledge-sharing within the field.

I commend the dedication and hard work of everyone involved—faculty members, students, and organizers—whose contributions were instrumental in making this conference a success. Wishing you all continued success in driving innovation and excellence in computer science.

President

MESSAGE FROM VICE CHANCELLOR

Dr.S.Geethalakshmi

Vice-Chancellor

I would like to express my sincere appreciation to the **Department of Computer Science and Engineering** for organizing the **National Conference on Innovative Computing Techniques (NCICT'25)**, scheduled for **April 7th and 8th, 2025**.

Conferences like NCICT'25 play a vital role in providing a dynamic platform for presenting, discussing, and exchanging ideas in an intellectually stimulating environment. They foster innovation, encourage collaboration and enable participants to gain valuable insights from leading experts in the field.

I am confident that this conference will be an enriching academic experience, bringing together **Research Scholars, Supervisors, Academicians, Students, and Industry experts** to contribute towards the advancement of secure digital transformation.

My heartfelt congratulations to the organizing team at the **Department of Computer Science and Engineering** for their dedication and efforts. I extend my best wishes for the **success of NCICT'25** and look forward to the impactful discussions and discoveries it will inspire.

Vice-chancellor

MESSAGE FROM RECTOR

Dr.D.Viswanathan

Rector

Welcome to NCICT'25

I am delighted to invite you to our esteemed institution as we host the **National Conference on Innovative Computing Techniques (NCICT'25)**. This conference serves as a premier platform for experts and researchers to exchange knowledge and showcase their latest research advancements.

In today's rapidly evolving world, the demand for cutting-edge technologies and innovations spans across all industries. The progress of our nation relies on scientists and technocrats leveraging their expertise to explore new frontiers in research and development. With technology advancing at an unprecedented pace, new research opportunities continue to emerge, shaping the future of various disciplines.

The true essence of this conference lies in its mission to foster groundbreaking ideas that drive technological and scientific advancements. By promoting research discoveries and presenting fresh perspectives, **NCICT'25** marks a significant step toward progress in the field.

I sincerely commend the dedication and hard work of the entire **NCICT'25** organizing team and extend my best wishes for a successful and impactful event.

Rector

MESSAGE FROM PRO VICE CHANCELLOR

Dr. M. Ravichandran

Pro Vice Chancellor

I am pleased to extend my sincere support and best wishes to the organizing team of the **National Conference on Innovative Computing Techniques (NCICT'25)**, scheduled for **April 7th and 8th, 2025**. This conference, organized by the **Department of Computer Science and Engineering** and led by **Dr. S. Geetha, Head of the Department**, represents a commendable initiative to explore emerging themes in **Computer Science**, providing a solid foundation for future research endeavors.

The conference serves as a platform for reflection, inspiration, and collaboration—a place where connections are made and a shared vision of the theme is developed. With our institute's strong academic tradition of fostering open and intellectual discourse, I express my gratitude to all participants—whether presenters, chairs, discussants, or audience members—for their commitment to making this a truly impactful knowledge-sharing event.

I would like to conclude with a quote from the **Bhagavad Gita**: *"The more extensive a man's knowledge of what has been done, the greater will be his power."* I am confident that this conference will fulfill that ideal, and I wish the organizers and their dynamic team a very fruitful and rewarding experience.

Pro ViceChancellor

MESSAGE FROM REGISTRAR

Dr. C. B. Palanivelu

Registrar

I am pleased to recognize the **Department of Computer Science and Engineering** for successfully producing a souvenir for the **NCICT 2025** conference. This publication serves as a valuable resource for students, faculty members, and research scholars—both within our institution and beyond—by offering insights into emerging technologies and trends.

I am confident that this souvenir will inspire innovation and encourage the exchange of ideas, fostering discussions on the diverse techniques shaping the future of computing. My heartfelt congratulations to the **Department of Computer Science and Engineering** for their dedication, teamwork, and commitment to introducing new ventures and enriching conferences with fresh themes.

Registrar

MESSAGE FROM ADVISOR COMPUTING

Dr Mehata K M
Advisor-Computing Sciences

It is with great pleasure that I extend my warmest welcome to all participants of the **NCICT'25 MATRIX Conference**, organized by the **Department of Computer Science and Engineering**. This gathering is a testament to our shared commitment to advancing the frontiers of computing and technology.

As we come together to exchange insights, discoveries, and innovations, it is essential to recognize the profound impact our research and collaborations have in shaping the future of technology. In an era of rapid digital transformation, our contributions play a pivotal role in driving progress and addressing global challenges.

I encourage you to actively engage with your peers, exchange ideas freely, and build meaningful connections that transcend disciplines. Together, our collective expertise and innovation have the power to solve complex problems and unlock new opportunities for technological advancement.

I extend my sincere gratitude to the organizing committee, presenters, and attendees for their dedication in making this conference a reality. As we embark on this enriching journey of knowledge sharing and collaboration, let us remain steadfast in our pursuit of excellence and innovation, driving positive change through the power of computing.

Wishing you all an inspiring and successful conference!

Advisor-Computing Sciences

MESSAGE FROM ADDITIONAL REGISTRAR

Dr. V. Cyril Raj
Additional Registrar

It is my distinct pleasure to extend a warm welcome to all participants of the **NCICT'25 MATRIX Conference**, organized by the **Department of Computer Science and Engineering**

In academia, conferences serve as invaluable platforms for exchanging ideas, sharing knowledge, and fostering collaborative networks. As we gather here today, we have a unique opportunity to engage in insightful discussions, thought-provoking debates, and groundbreaking discoveries that will shape the future of our field.

The **Department of Computer Science and Engineering** has long been a leader in innovation and excellence, and this conference stands as a testament to our ongoing commitment to pushing the boundaries of possibility. From pioneering research to transformative applications, the work presented here reflects the dedication, creativity, and expertise of our academic community.

I extend my sincere appreciation to the organizers, presenters, and attendees for their unwavering commitment and contributions to this event. Your passion for advancing knowledge and fostering collaboration is truly commendable and serves as an inspiration to us all.

May this conference serve as a catalyst for meaningful discussions, innovative insights, and lasting impact. **Wishing you all a stimulating and rewarding experience!**

Additional Registrar

MESSAGE FROM DEAN-E&T

Dr.N. Ethiraj

Dean-E&T

Extracting insights from data while ensuring privacy is a complex and demanding challenge. Technologies such as **Machine Learning, AI, Transfer Learning, Robotics, IoT, and Explainable AI**—collectively known as **MATRIX**— yet they remain susceptible to ethical dilemmas, security risks, and the constant need for adaptation in an ever-changing digital landscape.

Transfer learning, which leverages pre-trained models to improve new tasks, and Explainable AI, which enhances transparency in decision-making, enable faster and more efficient large-scale computations, leading to real-time, action-driven outcomes. These transformative fields continue to inspire countless students to tackle these critical yet intricate challenges with integrity and innovation.

I extend my **best wishes** to all the teams and participants of **NCICT'25**, and I especially commend **Dr. S. Geetha, Head of the Department of Computer Science and Engineering (CSE)**, for her leadership and dedication in making this conference a success.

Dean–E&T

MESSAGE FROM HOD

Dr. S. Geetha
HoD-CSE

I am pleased to inform you about the upcoming **National Conference on Innovative Computing Techniques (NCICT'25)**, scheduled for **April 7th and 8th, 2025**. This conference will spotlight emerging computing technologies under the **MATRIX** framework, drawing significant interest and participation from young innovators eager to explore these cutting-edge fields.

The overwhelming response to the conference theme underscores the growing global enthusiasm for technological advancements in these domains. Organizations are keenly anticipating the contributions of aspiring engineers specializing in these areas, and the **Department of Computer Science and Engineering** is effectively bridging the gap between industry needs and academic excellence through this conference and its accompanying **souvenir**.

I extend my **best wishes** to all participating team members and offer my **heartfelt congratulations** to the **organizing committee and student community** for their dedication and efforts in making this conference a success.

HoD- CSE

MESSAGE FROM CONFERENCE COMMITTEE

Mrs. A. MAHESWARI
Organizing Secretary

Dr. G.SONIYA PRIYATHARSINI
Organizing Secretary

Welcome All!

The **Department of Computer Science and Engineering** is pleased to announce the organization of the **10th National Conference on Innovative Computing Techniques (NCICT'25 MATRIX)**.

This conference provides a valuable platform for **academicians, specialists, and students** to present their latest research and findings in the computational field. It offers an excellent opportunity to engage with like-minded researchers, broaden knowledge, and foster motivation toward practical computational methods and innovative demonstrations.

The **Advisory Committee** of the conference includes prominent academicians and industry experts from across India. Papers are selected through a rigorous and independent review process, supported by qualified experts. Accepted papers will be presented at the conference and published, reflecting the high caliber of the program.

We would like to express our heartfelt gratitude to the authors who responded to our call for papers, the members of the **Program Committee**, **Technical Committee**, and external reviewers for their invaluable contributions. We also thank the **University Management** for their unwavering support in making this event a success.

We hope that the conference proceedings will serve as an essential reference for the wider research community.

PREFACE

About the Conference

I am writing to inform you about NCICT'25, a two-day National Conference organized by the Department of Computer Science and Engineering in a Hybrid Mode. In today's digital era, the rapid advancements in Machine Learning, AI, Transfer Learning, Robotics, IoT, and Explainable AI (MATRIX) have significantly transformed the landscape of Computer Science. These technologies drive interconnected systems, fueling innovation and necessitating a stronger focus on data intelligence and ethical AI practices.

The theme of NCICT'25 MATRIX is Digital Universe, emphasizing the integration of intelligent automation and cognitive technologies into the digital world. This conference provides a platform for academics, researchers, and industry experts to exchange insights, discuss challenges, and contribute to the secure and ethical evolution of AI-driven digital transformation.

About the University

Dr. M.G.R. Engineering College was founded in 1988 and Thai Moogambigai Dental College was started in the year1991.Both the colleges acquired Deemed University status in 2003 as Dr. M.G.R. Educational and Research Institute as per the orders of the University Grants Commission, New Delhi and the Union Ministry of Human Resources and Development, Government of India, New Delhi. ACS Medical College and Hospital started in 2008 has been brought into the ambit as a constitute of Deemed to be University by MHRD notification. Dr. M.G.R. Educational and Research Institute has preserved to nurture and groom young men and women through the various Faculties of Engineering & Technology, Dental Surgery, Medicine, Nursing, Physiotherapy,

Humanities & Sciences, Architecture, Management Studies, Computer Applications and Pharmacy. The Deemed University was accredited by National Assessment and Accreditation Council (NAAC) with an 'A+' Grade. The mission is to make the Institution a resource centre for higher level teaching –learning process and impart relevant training and education to the youth to make them technically qualified, practically competent and skilled human resources, to suit the needs and demands of the modern industries, business or research and development organizations.

About the Department

The Department of CSE aims to impart high quality education to post-graduate and under-graduate students as well as to carry out cutting edge technology in research on various disciplines of Computer Science and Engineering. The Department has Center of Excellencies Oracle, IBM, CDAC Garuda, Cyber Forensic and Cisco Net Academy .All the programmes focus on preparing the students for wide range of IT careers and equipping them and moulding for tomorrow's technocrats with high calibrate all levels to meet the expectation of stake holders. The B.Tech CSE Program of the Department is accredited by National Board of Accreditation(NBA) and Accreditation Board for Engineering and Technology(ABET)

CONVENOR

Dr.S.GEETHA HoD/CSE

ORGANISING SECRETARIES

Mrs. A. MAHESWARI -9884536108
Dr. G. SONIYA PRIYATHARSINI- 7299885500

 ISBN 978-81-979985-1-5

TECHNICAL ADVISORY COMMITTEE

Dr.S.P. Rajagopalan, Prof Emeritus, CSE-Dr.MGRERI

Dr.H.V.Ramakrishnan, Prof-Emeritus, CSE-Dr.MGRERI

Dr.S.Vijayanand, Executive Director, RRGI, Bengaluru

Dr.VN.Rajavarman, Dean(PT)Addl. Dean CSE&IT, Dr.MGRERI

Dr.N.Kanya, Addl. Dean (E&T), HOD-IT, Dr.MGRERI

Dr.H.Khanna Nehemiah, Prof-CSE, Anna University

Dr. G. S. Anandha Mala, Prof-CSE, Easwari Engg. College

Dr.D.N.Sadagopan, Asst.Prof-CSE, UITDM, Kanchipurum

Dr.S.Sudha, Prof-EEE, NIT Trichy

Dr.R.Nakeeran, HOD-ECE, Pondicherry University

Dr.K.Selvakumar, Asst.Prof- CSE, NIT Trichy

Dr.Vani, Asst. Prof CSE, NIT, Karaikal

Dr. K. S. Gayathri, Associate Prof-Dept. of IT, SSN Engg. College

Dr.Anurag Mistra, Prof-Dept. of CSE, Delhi University

NCICT25-CONFERENCE PROCEEDINGS

Table of Index

NCICT250005

TRACING AND TRACKING DRUGS SUPPLYCHAIN USING DECENTRALISATION PROCESS

Sruthi P, Blessey G, Ms. V.Asha Judi, Ms. P.kabitha

gblessey04@gmail.com

Sathyabama Institute of Science and Technology

ABSTRACT

The pharmaceutical ecosystem is composed of various actors such as drug producers, health care practitioners, patients and regulators inter-alias. The integration of blockchain technology enhances the engagement of these actors to a higher plane since it provides mechanisms of sharing data and information in a secure and clear manner. In this blockchain project, we propose the development of a decentralized platform that leverages the benefits of blockchain to improve pharmacovigilance, drug supply chain management, and clinical trials. The tracking system will ensure that all the pharmaceutical products are traced from the manufacturer to the end user, thereby preventing the circulation of fake drugs and ensuring the health safety of patients. In addition, this allows for the collection of research data from patients without compromising their privacy and the safety of their data. The purpose of this project, which focuses on pharmacology, is to showcase the possibilities offered by the implementation of block technology, as well as extend the scope of available solutions for the pharmaceutical market.

KeyWords: Blockchain, Fake Drugs Prevention, Supply Chain.

Causal Inference for Data Debugging: Enhancing AI and Data Science Reliability

S S R M Raju Paidi, D. Mabuni

pssrmraju87@gmail.com

Dravidian University, Kuppam

Abstract.

Enhancing data understandability requires generating sum-maries that align with users' specific information needs, particularly when interpretation is subjective. While existing datasets focus on sum- marization with objective intents, where a single summary suffices for all users, no datasets address subjective intents that vary based on user perspective. This paper introduces a dataset designed for evaluating sub- jective summary extraction, containing 2,200 (document; intent; sum-mary) triplets across 48 Wikipedia pages with ten varying levels of sub- jectivity. Statistical analysis confirms systematic variations in subjectivity across intents. Furthermore, baseline experiments indicate that example-based approaches outperform traditional query-based methods in capturing subjective intents. The results also highlight the potential for significant improvements in subjective summarization techniques. This dataset-driven approach provides a foundation for future research in enhancing personalized summarization and data interpretability. By enabling more context-aware and user-centric summarization methods,this work contributes to advancements in natural language processing and artificial intelligence applications, ultimately improving how users interact with large-scale information.

Keywords:

Subjective Summarization, Data Understandability, UserCentric Summarization, Personalized Summaries, Information Retrieval,AI-driven Summarization, Extractive Summarization.

AI-Driven Identification and Sustainable Cultivation of Medicinal Plants Using Data Science and IoT"

Priyankaa R

saisathyajith1819@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract:

The combination of Artificial Intelligence (AI), Data Science, and the Internet of Things (IoT) in the identification and sustainable cultivation of medicinal plants is transforming conventional agricultural and herbal medicine practices. AI-based image recognition and deep learning models improve the precise identification of plant species, minimizing human errors and enhancing classification efficiency. IoT-based smart sensors constantly track vital parameters like soil moisture, temperature, humidity, and nutrient content to provide ideal growth conditions. All these technologies together enable precision agriculture, resulting in increased crop yield, minimized wastage of resources, and enhanced monitoring of plant health. Data Science is essential in processing past and current data for predictive analytics towards disease detection, growth optimization, and climatic adaptability. Using big data and AI- based decision-making, farmers and scientists can adopt sustainable cultivation practices that reduce the environmental footprint while optimizing productivity. This method also ensures conservation of biodiversity and promotes quality control in the medicinal plant sector, improving the efficacy and standardization of herbal drugs for pharma uses. The envisioned AI-IoT system encourages a data-centric agricultural environment with green and sustainable farming practices. Through the combination of cutting-edge technologies, the system not only protects threatened medicinal plant species but also facilitates their large- scale cultivation, making them available for generations to come. This interdisciplinarity helps to modernize herbal medicine while supporting international sustainability objectives.

Keywords:

AI-driven identification, Data Science, IoT, Medicinal plants, Sustainable cultivation, Precision agriculture, Machine learning, Smart sensors, Biodiversity conservation, Quality control.

NCICT250018

DJANGO Based food-ordering system

Sriman S

srimans2004@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract:

ByteBite is an innovative web-based food ordering platform designed to streamline campus dining experiences for students and staff. Developed using Django, HTML, CSS, and Python, it offers a responsive and user-friendly interface that enables users to browse digital menus, customize orders, and track their status in real-time. Integrated notifications keep users informed about order confirmations, preparation progress, and pickup times, significantly reducing wait times and enhancing convenience. ByteBite optimizes campus food services by allowing pre-orders and scheduled pickups, ensuring a smoother workflow for vendors while improving service efficiency. The platform features role-based access control, ensuring that only authorized users—students, faculty, and staff—can access its services, while vendors benefit from a dedicated dashboard to manage orders, update menu availability, and monitor sales trends. Security is a core aspect, with robust authentication, session management, and data protection measures safeguarding user information and ensuring privacy. By digitizing the food ordering process, ByteBite reduces long queues, minimizes physical interactions, and fosters a more organized, efficient, and hygienic campus dining system. Its scalable and adaptable design makes it a powerful solution for modern educational institutions, offering a seamless, systematic, and intelligent approach to food ordering.

Keywords:

Web-Based, platform, dynamic/responsive, Django, Python, vendor and food-ordering.

Connecting Excess To Access : A Digital Platform For Smarter Food Re-distribution

SHAHUL HAMEED M

shameed2404@gmail.com.

Dr. M.G.R. Educational and Research Institute

ABSTRACT

In a world where food wastage and hunger coexist, this project bridges the gap by creating a digital social platform that redistributes surplus food to those in need. Nearly 40% of food is wasted annually in India, while millions face hunger and malnutrition. This platform connects food donors—restaurants, households, and event organizers—with recipients, ensuring no edible food is wasted. Users can post surplus food details, while recipients can request food directly. Delivery partners, including students and gig workers, handle collection and distribution. A dedicated customer service hotline ensures inclusivity for those without internet access, and contributors are rewarded with redeemable points to encourage participation. Built using the MERN stack (MongoDB, Express.js, React.js, Node.js), the platform will launch as a Minimum Viable Product (MVP) focusing on food redistribution, with future plans to include advanced features like AI-driven matching and real-time tracking. Beyond food redistribution, it envisions sharing reusable goods, promoting sustainability. Aligned with Sustainable Development Goals, this initiative aspires to eliminate food waste, eradicate hunger, and foster a compassionate society.

KEYWORDS : Food Redistribution , Zero Hunger , Food Waste , Sustainability , MERN Stack, Social Platform , Delivery Network

NCICT0022

AI-BASED SMART HELMET FOR ACCIDENT DETECTION & EMERGENCY ALERTS

Prince Abraham.A, Visal Varsan. M, Vishal Soni. V

visalvarsan@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT

Road accidents remain a major concern globally, often leading to fatalities due to delayed medical assistance. To address this challenge, we propose a Smart Helmet for Accident Prevention, an intelligent safety system designed to enhance rider security. The smart helmet is equipped with sensors to detect accidents and immediately trigger an SOS alert to predefined emergency contacts or services. The system integrates IoT (Internet of Things) technology, machine learning algorithms, and real-time monitoring to improve safety measures. It ensures timely response by utilizing GPS tracking, accelerometer-based impact detection, and wireless communication for alert transmission. The proposed solution aims to reduce response time in emergencies, potentially saving lives. This innovation contributes to the field of intelligent transportation systems, wearable safety technology, and AI-driven accident prevention.

Keywords:

Smart Helmet, Accident Prevention, IoT, Emergency SOS, GPS Tracking, Real-time Monitoring, Wearable Safety, AI in Transportation, Impact Detection, Intelligent Safety System.

NCICT250025

ENSURING A RAGGING- FREE CAMPUS WITH SMART SAFETY SOLUTIONS

A.S. Revathi

asrevathi05@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT

The Anti-Ragging Complaint & Safety Website is a comprehensive platform aimed at ensuring student safety by addressing ragging issues within educational institutions. The website allows users, including students, staff, and authorities, to register and securely log in using their credentials. It enables students to file complaints with detailed information, while also providing an SOS button for emergency alerts to authorities. The platform supports complaint verification, investigation, and action, ensuring genuine cases are addressed, while false complaints are flagged. Regular updates are sent to users, keeping them informed about the resolution process. Developed using React for front-end development, the application offers a responsive and user-friendly interface, while backend functionality, including data storage and user authentication, is powered by Node.js, Express.js, and MongoDB for efficient database management. The system leverages JWT authentication for secure user login and interactions, making it an efficient tool to foster a safe, transparent, and supportive environment within educational institutions.

KEYWORDS

Anti-Ragging, Complaint Management System, SOS Emergency Alerts, Student Safety, MERN Stack, Real-Time Reporting.

NCICT250032

USE AI-POWERED TOOLS TO PREVENT FISHING ATTACKS

Mr.SelvaGanesh B

selvaganeshkrishna136@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT

Bubble sort is a simple sorting algorithm that repeatedly steps through the listen, compares adjacent elements, and swaps them if they are in the wrong order. This process continues until the list is sorted. In this research, we implement the bubble sort algorithm using Python programming language and analyze its time complexity, space complexity, and performance compared to other sorting algorithms. We explore various optimizations and variations of the bubble sort algonthm to improve its efficiency and discuss its practical applications. Through experimentation and empirical analysis, we provide insights into the effectiveness and limitations of bubble sort in different scenarios, contributing to a deeper understanding of sort algorithms.

KEYWORD:

Bubble Sort,Sorting Algorithm,Time Complexity,Space Complexity.

NCICT250038

Enhancing Road Safety Through Object Detection Using Small Traffic Signs

B. Sri Varshini

sri481074@gmail.com

SRM University ramapuram

Abstract

The Traffic Sign Detection and Warning System is designed to enhance road safety by utilizing computer vision techniques for real-time detection and classification of traffic signs. Leveraging the YOLOv8 model, the system identifies various signs including 'Stop', 'Speed Limit', and 'School Ahead' from live video feeds. Each detected sign prompts the generation of an appropriate warning message for the driver, ensuring timely awareness of road conditions. By addressing limitations in existing systems through efficient object detection and classification algorithms, this system aims to mitigate potential road hazards and contribute to safer driving environments.

Keywords

Road Safety, Traffic Sign Detection, Computer Vision, YOLOv8, Object Detection, Deep Learning, Real-time Classification, Autonomous Vehicles, Smart City Infrastructure, Driver Assistance Systems.

NCICT250010

FAKESNIPE -Fake News Detection System

Mr.Y.Sivakumar

yendlurusiva935@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT

The increasing spread of fake news through online platforms presents significant challenges to information credibility and public trust. To address this issue, we propose an advanced fake news detection system using deep learning, particularly Long Short-Term Memory (LSTM) networks. This system processes large datasets containing both real and fake news articles, performs text preprocessing by removing noise and irrelevant elements, and converts textual data into numerical representations using word embeddings. Our LSTM-based neural network model is specifically designed to capture long-term dependencies in text, enabling accurate classification of news articles. The model is trained and validated using standard performance metrics such as accuracy, precision, recall, and F1-score. Additionally, the system features a user-friendly interface that allows real- time verification of news articles. By leveraging natural language processing (NLP) and deep learning, our approach significantly enhances the ability to identify misinformation and prevent its spread. Future enhancements may include integrating more sophisticated models such as BERT for improved accuracy and contextual understanding. Our system plays a crucial role in safeguarding the reliability of digitaljournalism and promoting the dissemination of authentic information.

KEYWORDS

Fake News Detection, Deep Learning, LSTM, Natural Language Processing, Misinformation, Text Classification, Online Journalism

NCICT250041

ADVANCED DRIVER ASSISTANCE SYSTEM

Vasanth Aathithya.K

aathithyavasanth@gmail.com

ABSTRACT

The Advanced Driver Assistance System (ADAS) is a technology designed to improve vehicle safety by integrating sensors . This project focuses on enhancing driver awareness and preventing collisions by addressing challenges such as tire direction detection And obstacle avoidance . The Steering Angle Sensor (SAS), which monitors the steering wheel's position and rotation rate. By detecting the exact direction of the tires, it ensures drivers are aware of their vehicle's orientation, reducing the risk of collisions due to misaligned tires. The system incorporates microwave sensors that detect nearby objects. These sensors analyze reflected signals to determine the distance of obstacles, providing timely warnings to drivers. Powered sensors monitor the vehicle's real-time direction and movement. This ensures the vehicle stays on its intended path. The ADAS processes this data through an onboard computer system, and provides actionable feedback to the driver via visual or auditory alerts. This project highlights the importance of improving vehicle safety and reducing accidents. Its application in driving schools offers beginners a practical understanding of vehicle dynamics, parking, and obstacle avoidance, even without high-end vehicles

KEYWORDS

Steering Angle Sensor (SAS), microwave sensors,real-time monitoring, vehicle safety, powered sensors, obstacle detection, tire direction

NCICT250042

Community Events Hub: A Smart Platform for Event Discovery and Engagement

KRITHIKA B

krithikab1711@gmail.com

SRM University Ramapuram Chennai

Abstract

The Community Events Hub is a web application designed to revolutionize event discovery and participation. This platform aims to centralize event management, providing an easy-to-use interface that allows users to find, organize, and engage with community events. By leveraging Python, Django, and modern front-end frameworks, the system ensures scalability and user-friendliness. Unique features such as gamification, social media integration, and post-event engagement enhance user experience, fostering a vibrant community ecosystem.

Keywords:
Community Events, Web Application, Event Management.

NCICT250013

Machine Learning-Powered Malware Detection in Downloaded Files

Durga Nivashini1

durganivi2003@gmail.com

Dr.Mahalingam college of engineering and technology

ABSTRACT

As the use of the internet has been increased dramatically, malware has emerged as a major threat to digital security. Based on well-known Traditional signature-based systems, malware detection systems often cannot adapt quickly to new threats. We present malware detection technique by using Long Short-Term Memory (LSTM) networks which is a type of Deep learning to build a malware detection system that improves performance and efficiency over previous methods of classifying malicious files. This model utilizes the sequential processing of features, behavior patterns and header data derived from downloaded files using LSTM. The detection mechanism is a well-defined feature extraction process, analyzing important features of files like metadata, API call sequences, Header file analysis, among others. Behavior analysis is also included to identify potential file structure anomalies that could suggest nefarious intent. To adequately learn the sequential dependencies and patterns related to malware behavior, we train the datasets containing benign and malicious files with LSTM model based on available labeled datasets

Keywords:

Deep Learning for Cyber Security; Behavioural analysis for Malware Identification.

NCICT250014

Bid-Xperts E-Auction app

Vijaikottesh D

vijaikotteshd@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract

The E-Auction Platform is an innovative solution designed to streamline the auctioning process, ensuring transparency and efficiency in buying and selling new and used tech products, automobiles, and other valuable items. The platform facilitates a structured auction mechanism, ensuring verified product listings, fair pricing, and secure transactions. By integrating a robust verification process, live auctioning, and post-sale services, this platform enhances user experience and trust in online auctions. Currently, most auctions in India are conducted offline, requiring participants to be physically present at the auction site. This process is time-consuming and inefficient, as individuals who fail to secure a product leave empty-handed, resulting in wasted time and effort. Additionally, the lack of a digital system means that verification of participants and products remains limited. In contrast, our platform revolutionizes the auctioning experience by offering a fully digital, ID-verified system, eliminating the need for physical presence while ensuring secure and authenticated transactions. Traditional e-commerce and auction platforms often rely on direct seller listings with minimal verification processes, leading to potential fraud, misrepresented products, and unfair pricing strategies. Buyers frequently face issues related to product authenticity, inaccurate descriptions, and delayed refunds. The absence of a structured auctioning system results in inefficient product sales and unsold inventories. Moreover, revenue generation for such platforms is limited due to a lack of diversified monetization strategies. The E-Auction Platform introduces a structured approach to product verification, live auctions, and post-sale support. Sellers list their products, which are then verified and priced accordingly. A live auction mechanism ensures competitive bidding, increasing seller profitability. Unsold products are redirected to partner companies for exchange. Revenue is generated through price margins, in-app advertisements, and strategic sales to partner companies. This solution ensures a secure, efficient, and profitable online auctioning experience for all stakeholders

Keywords:

E- Auction platform, Live Auction, Product Authenticity, Monetization Strategie

NCICT250015

DERMA DETECT

Thotam Harish

tharish082@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT

This research presents DermaDetect, an automated deep-learning system designed to address challenges in dermatological diagnosis, particularly in underserved rural areas. Our approach employs a multiclass convolutional neural network utilizing pre-trained AlexNet and VGG19 architectures to differentiate between healthy skin and five distinct skin conditions: Eczema, Nail fungus, Melanoma, Bullous Pemphigoid, and Vascular Tumor.The system was developed using a comprehensive dataset comprising over 22,500 images from DermNet and HAM10000. Images underwent preprocessing, including resizing to 224×224 pixels and color constancy adjustments to eliminate bias. Enhancement techniques such as cropping and flipping enhanced model generalization. Performance metrics demonstrate impressive results, with disease-specific accuracy ranging from 84.22% to 96.83%. Melanoma detection achieved the highest precision at 99.36%. The system's noninvasive nature makes it particularly suitablefor clinical implementation, offering the potential for expediting diagnosis and reducing healthcare costs, especially in areas with limited access to dermatologists.Future developments aim to expand the dataset and refine the model architecture to improve diagnostic accuracy across diverse skin conditions and populations.

Keywords: Deep learning, dermatological diagnosis, convolutional neural networks, transfer learning, image classification, automated diagnosis.

NCICT250048

ACTIVE AGING HUB

P.VIGNESH MANIKANDAN:

vigneshmanikandan27@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT

Active Aging Hub strives to help seniors and older adults live healthier, more fulfilling lives by providing a single platform for everything fitness-related. It understands that the aging population has particular eclectic needs and has developed specialized exercise programs and expert assistance, all within a community that values seniors well-being. Active Aging Hub's mission is to ensure that mobility, strength, and overall fitness are accessible, safe, and enjoyable for everyone, particularly older adults who need low-impact exercises optimized for balance, flexibility , and strength-building. All workouts provided on the platform are safe and designed with inclusivity, ensuring users of all capabilities can benefit. There are a wide variety of plans available depending on the user's goal, be it improving joint health or chronic condition management. Step-by-step video instructions, personalized fitness plans, and progress trackers are also readily available. In conjunction with these services, Active Aging Hub provides nutritional tips, mental wellness bolsters, and motivational material to ensure optimal holistic health. Active Aging Hub embraces familial community and encourages users to connect and motivate each other beyond fitness. Interactive forums, virtual classes, and inspiring success stories propel users toward an active lifestyle. The platform begins with us.

KEYWORDS

Fitness For Older Adults, Personalized Workout Plans,workout recommendation system.

NCICT250051

Deep Learning-Based Time Series Forecastin

Raja Vignesh J

rajavignesh1704@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract:

Deep Learning-Based Time Series Forecasting represents a dynamic and rapidly evolving field at the intersection of deep learning and time series analysis. It addresses the inherent challenges of predicting future values in sequential data, a task critical across numerous domains. Traditional statistical and machine learning methods often struggle with the complexity, non-linearity, and volume of modern time series datasets. Deep learning, with its ability to automatically learn intricate patterns and dependencies, has emerged as a powerful alternative. This domain encompasses a diverse array of methodologies, each tailored to specific data characteristics and forecasting objectives. Convolutional Neural Networks (CNNs) excel at capturing local patterns and features within time series, while Recurrent Neural Networks (RNNs), particularly Long Short-Term Memory (LSTM) and Gated Recurrent Units (GRU), are adept at modeling long- range dependencies and temporal dynamics. The emergence of Transformer architectures, originally developed for natural language processing, has further revolutionized time series forecasting by enabling the capture of global dependencies and contextual information. Applications of deep learning-based time series forecasting are vast and span diverse industries. From financial markets, where accurate predictions of stock prices and market trends are crucial, to energy sectors, where forecasting power demand and renewable energy generation is essential, the impact is profound. Furthermore, in healthcare, it aids in predicting patient vital signs and disease progression, and in supply chain management, it optimizes inventory and demand forecasting. The ability to handle large, complex datasets and adapt to evolving patterns makes deep learning a pivotal tool in this critical area.

Keywords:

Deep Learning , Dynamic and Rapidly evolving , Sequential data , (Complexity, Non-Linearity, and Volume of modern time series) , supply chain management ,Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), Long Short-Term Memory (LSTM), Gated Recurrent Units (GRU)

NCICT250054

IoT-Based Future Networks: Architecture, Challenges, and OpportunitiesI

Jamuna .A

jamunalagarsamy@gmail.com

GTN Arts College

Abstract

The Internet of Things (IoT) is ushering in a new era of connectivity, intelligence, and customization by driving changes in network design and operations. Future networks based on IoT must support millions of connected devices by connecting sensors, actuators, and smart machines in various applications such as smart cities, medical diseases, industrial automation, and environmental protection. This article details the architecture, core technologies, challenges, and opportunities related to the future network based on the Internet of Things. The system consists of several layers, including the application layer, middleware, middleware, cloud layer, and application layer, each of which plays an important role in data processing quality, management, and communication. , AI, and blockchain are considered key players in these networks, enhancing their ability to provide low latency, reliability, and security. 5G networks provide the bandwidth and connectivity needed to support large-scale IoT deployments, while Medge computing brings computing power closer to data, reducing latency and optimizing time. AI and machine learning algorithms add intelligence to IoT systems by supporting advanced analysis, monitoring, and self-determination. It is believed that blockchain technology and its electronic products and certificates can increase the security and reliability of IoT networks.

Significant challenges such as capacity building, security, interoperability, and data qualitymanagement remain. The development of tools should be effective, and the process ofheterogeneity should also be discussed. Security issues such as data leaks and cyberattacks posethreats to network integrity and user privacy. This article discusses these challenges in detail andexplores possible solutions, including better understanding, modeling efforts, and modified algorithms. The importance of robust IoT networks that can meet the changing needs of people.By solving these problems, future IoT-based networks have the potential to transform theeconomy, improve quality of life, and drive innovation in the connected world.

Keywords:
IoT, Future Networks, 5G, Edge Computing, AI, Smart Cities, Scalability, Security.

NCICT250056

BRIGHTNESS AND VOLUME CONTROL USING HAND DETECTION AND VOICE RECOGNITION

Sandeep Rana

sandeepbnarana@gmail.com

Vels institute of science, technology and advanced studies

Abstract

The integration of Artificial Intelligence (AI) and Computer Vision into everyday applications has opened new avenues for enhancing user experiences. This project hand detection and voice recognition technologies aims to develop non- contact method for adjusting screen brightness and volume using hand gestures and voice recognition. The primary objective is to leverage computer vision techniques and machine learning models to translate them into brightness ,volume control commands. Utilizing OpenCV for real-time image processing and MediaPipe for robust hand landmark detection. By capturing video frames through a webcam, the application processes these frames to detect hand positions and gestures. Voice commands are processed using the SpeechRecognition library to provide an alternative or complementary control mechanism. Specifically, the distance between the thumb and index finger tips is calculated to determine the desired brightness level similarly for the volume. The integration of hand detection and voice recognition demonstrate a significant improvementin how users interact with their devices.

Keywords:

Artificial Intelligence, Computer Vision, Hand Gesture Recognition, Voice Recognition.

NCICT250059

SMART SCREEN TIME MANAGER

FOR CHILDRENS

Dhanesh J

jayachandrandhanesh03@gmail.com

Dr. M.G.R. Educational and Research Institute.

ABSTRACT:

The project introduces an intelligent screen time management system designed to promote healthy digital habits in children. Using a structured "time rule," the app interrupts usage after prolonged screen time by presenting interactive, age-specific quizzes to encourage cognitive engagement. Parents can create multiple profiles for different children, customize screen time limits, and adjust quiz difficulty based on age. To strengthen parental control, parents must specify restricted apps during profile setup. If a child exceeds their allocated time twice, these restricted apps will be automatically closed and will remain inaccessible for a set duration defined in the profile settings. Parents can manually unlock them using a password. By integrating education with strategic enforcement, this system ensures healthier digital interactions while giving parents full control over their child's screen time and app access.

Keywords:

Screen Time Management, Timer Interrupt, Age Specific Quiz, API, Password Protection.

NCICT250060

Automated Security System: Real-Time Motion Detection and Image Alerts Using ESP32-CAM and Telegram

Niranjan V

vniranjan1111@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract

In the era of IoT-based smart security systems, real-time surveillance and remote control have become crucial for ensuring safety in homes, offices, and restricted areas. This project presents an automated IoT-enabled security system using an ESP32-CAM, PIR motion sensor, and an alarm system for real-time monitoring and threat detection. The system continuously scans the environment for motion using a Passive Infrared (PIR) sensor. Upon detecting movement, the ESP32-CAM captures an image and sends it to a Telegram bot, providing real-time alerts to the user. Additionally, users can remotely activate or deactivate an alarm system using Telegram commands, enhancing security measures.The integration of IoT technology ensures seamless communication over Wi-Fi, allowing for remote access and instant notifications without requiring manual intervention. The ESP32-CAM acts as a low-power, cost-effective surveillance device capable of operating independently. The Telegram bot interface enables users to receive instant alerts, view captured images, and control the alarm system from anywhere in the world.This system eliminates the need for constant manual monitoring and provides real-time threat detection and deterrence. The alarm feature adds an extra layer of security by allowing the user to respond to threats immediately. The compact and scalable design makes it ideal for multiple applications, such as home automation, smart surveillance, industrial security, and access control systems.By leveraging IoT-driven automation, this project offers an efficient, reliable, and real-time security solution that enhances safety, minimizes response time, and ensures peace of mind.

Keywords:

IoT Security, Smart Surveillance, ESP32-CAM, PIR Sensor, Telegram Bot, Remote Monitoring, Alarm System.

NCICT250066

Data Privacy and Security in AI-Driven Data Science

Applications

Varshika Sai

varshikasai1@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract:

As AI-driven data science applications continue to evolve, concerns regarding data privacy and security have become more critical than ever. The integration of machine learning, deep learning, and big data analytics has enabled organizations to process vast amounts of sensitive information, raising ethical and legal challenges. This paper explores the risks, challenges, and solutions associated with data privacy and security in AI-driven applications. We inspect key threats such as data breaches, adversarial attacks, model inversion, and data poisoning, which compromise the integrity and confidentiality of AI systems. Additionally, we discuss privacy-enhancing technologies (PETs), including differential privacy, federated learning, and homomorphic encryption, which help mitigate security risks while maintaining AI performance. The implementation of secure AI governance frameworks, compliance with data protection regulations (GDPR, CCPA), and ethical AI practices is crucial for building trust and ensuring responsible AI deployment. By balancing innovation with security, organizations can develop AI systems that protect user data while delivering powerful data-driven insights.

Keywords:

Data Privacy, AI Security, Data Protection, Differential Privacy, Federated Learning, Adversarial Attacks, Homomorphic Encryption, GDPR, CCPA, Ethical AI, Data Breaches.

NCICT2500623

SMART LOT USING IOT

Keran Vignesh

keranvignesh2021@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT:

This project presents the development of an IOT -based smart parking system utilizing an Arduino microcontroller, an NFC (Near Field Communication) module, and a servo motor. The system is designed to provide secure access control by unlocking a door when an authorized NFC tag is scanned. The NFC module, specifically the PN532, reads the unique identifier (UID) of NFC tags placed near the reader. Upon detecting a tag, the Arduino compares the tag's UID with a pre-programmed authorized ID stored in its memory. If the tag matches, a servo motor is activated to unlock the door by rotating to a specified angle; after a set time, the servo locks the door again. Unauthorized tags are ignored, and no action is taken. The system offers a simple yet effective approach to RFID-based security, making it adaptable for applications such as home automation, access control, and secure entry systems. This project demonstrates the practical use of NFC technology, Arduino microcontrollers, and servo motors in developing a functional and secure door lock solution.

Keywords:

NFC (Near Field Communication), Door Lock System, Arduino, PN532 Module,Servo Motor,Access Control, Security System.

NCICT2500624

GESTURE RECOGNITION SYSTEM

Saritha Ajay

sarithaajay2305@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT

Gesture Recognition System is an innovative real-time hand gesture recognition system tailored specifically for speech-impaired individuals. Leveraging algorithms such as YOLOv3 (You Only Look Once) and Convolutional Neural Networks (CNN), our system not only accurately detects hand gestures but also provides a unique feature: audio output. Unlike traditional systems that offer only textual descriptions of recognized gestures, our approach combines visual feedback with synthesized speech, enhancing usability and accessibility. By bridging the gap between gesture-based communication and natural language understanding, our lightweight model empowers speech-impaired users to communicate effectively through gestures. The system operates in real-time and makes it ideal for seamless interaction. YOLOv3 detects and localizes gestures, while CNNs classify them based on pre-trained data. The audio output is dynamically generated, offering a voice response that corresponds to the recognized gesture. This combination of visual and auditory feedback ensures greater user engagement and understanding.

Keywords:

Speech-Impaired Accessibility, Gesture Recognition, YOLOv3, Convolutional Neural Networks (CNN), Audio Output 4.

NCICT250071

Computer Vision and Data Science for Image Analysis and Object Recognition

Sasi Kumar M

ksasi3368@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract:

This paper explores the transformative potential of integrating Computer Vision, Data Science, and Artificial Intelligence (Deep Learning) to enable computers to move beyond passive image storage and achieve genuine visual understanding. We delve into how Computer Vision provides the foundational "eyes" of the machine, enabling object detection, segmentation, and classification. However, these "eyes" require a sophisticated "brain," which Data Science provides through techniques for data cleaning, organization, and preparation. We emphasize the critical role of feature engineering, extracting meaningful information from raw image data. The integration of powerful Deep Learning models, such as Convolutional Neural Networks (CNNs) and Transformer models, allows for highly accurate object recognition and image analysis. We address the complexities of data preprocessing, ensuring high-quality training data, and the rigorous process of model evaluation to guarantee reliability and performance. Recognizing the ethical implications, we examine the crucial aspects of bias and fairness in AI-driven image analysis, advocating for responsible development and deployment. This synergy is driving innovation across diverse sectors, including healthcare, autonomous vehicles, and retail, unlocking applications such as AI-assisted medical diagnosis and self-driving navigation. By bridging the gap between the visual world and the realm of data, we are creating systems that not only "see" but also "understand," fundamentally changing how we interact with and interpret visual information

Keywords:

Computer Vision, Data Science, Deep Learning, Image Analysis, AI, Object Recognition, Feature Engineering, Data Preprocessing, Model Evaluation, Bias/Fairness, Understanding Images , Convolutional Neural Networks (CNNs),

NCICT250073

AI-Enhanced Time Series Forecasting

Sri Durga K

sridurga8.4.2005@gmail.com,

Dr. M.G.R. Educational and Research Institute

ABSTRACT:

Cybersecurity threats are evolving rapidly, making traditional rule-based security systems ineffective against sophisticated attacks. This project, AI-Powered Cyber Threat Detection System, leverages machine learning and deep learning to detect anomalies and potential cyber threats in real-time. By analyzing network traffic, user behavior, and system logs, the system identifies malicious activities such as intrusion attempts, phishing, and malware infections. The model is trained on real-world datasets like CICIDS2017 or UNSW-NB15 and employs anomaly detection, clustering, and deep learning techniques. A user-friendly dashboard provides real-time alerts and visualizations, helping security analysts respond proactively to threats.

Keywords:

Anomaly Detection,Real-Time Threat Detection,Deep Learning Models,NLP for Log Analysis,Cyber Threat Classification.

NCICT2500727

Real-Time Helmet and Number Plate Detection Using Machine Learning

Pretheeviraj G

pretheeviraj0805@gmail.com

VELS INSTITUTE OF SCIENCE, TECHNOLOGY AND ADVANCED STUDIES

ABSTRACT

Ensuring road safety for motorcycle riders remains a critical challenge, with helmet non-compliance significantly increasing the risk of fatal injuries. To address this issue, we propose a real-time helmet detection system leveraging YOLO (You Only Look Once), Flask-SocketIO, and React.js for seamless video processing and monitoring. Our system captures live footage through a webcam, processes frames using a YOLOv8-based deep learning model, and detects riders without helmets with high accuracy. It employs a client-server architecture, where the React.js frontend streams video to a Python backend powered by Flask and Socket.IO for real- time communication. Detected violations trigger bounding box visualizations, classifying riders as "With Helmet" or "Without Helmet" with confidence scores. For non-compliant riders, the system can be extended with Optical Character Recognition (OCR) to extract license plate details and automate penalty enforcement via Node.js/SMS integration. Key features include real-time processing (~5 FPS) using YOLO object detection, WebSocket-based communication for low-latency data transfer, dynamic FPS adjustment to balance performance and accuracy, bounding box overlays for visual feedback, and a scalable backend for integration with traffic monitoring systems. By automating helmet detection and violation logging, our solution supports law enforcement agencies in reducing non-compliance and promoting safer riding behavior. Future enhancements include license plate recognition (ALPR) and cloud-based violation databases for large-scale deployment.

Keywords:

Helmet Detection, YOLOv8, Real-Time Object Detection, Flask-SocketIO, React.js, Computer Vision, Road Safety, Deep Learning, WebSocket Communication, Optical Character Recognition (OCR), Traffic Monitoring, Automated Penalty System.

NCICT2500728

AI-Based Medical Diagnosis System: Enhancing Clinical

Vijaya Sundar S

vijayasundar.ds.ai24@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract

The integration of Artificial Intelligence (AI) in medical diagnosis has revolutionized healthcare by enhancing clinical decision-making through symptom and patient history analysis. AI-driven diagnostic systems leverage machine learning (ML) and deep learning (DL) techniques to improve accuracy, efficiency, and personalized treatment recommendations. This paper provides a comprehensive literature survey on AI-based medical diagnosis systems, exploring their types, applications, challenges, and future directions. Additionally, a proposed system is outlined to optimize clinical decision-making by integrating AI with patient history and symptom analysis. The findings emphasize the transformative potential of AI in healthcare, ensuring precision, transparency, and improved patient outcomes.

Keywords

AI in healthcare, medical diagnosis, clinical decision support, symptom analysis, patient history, machine learning, deep learning.

NCICT2500729

AI-Driven Predictive Maintenance and

Vishnuvaradhan M

mastervishnu53@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT:

The adoption of Artificial Intelligence (AI) and Data Science in Industry 4.0 has revolutionized the manufacturing sector, ushering in a new era of intelligent automation, predictive analytics, and quality control. AI-driven Computer Vision systems play a crucial role in defect detection by analyzing high-resolution images of manufactured products in real time, reducing human errors and increasing efficiency. These systems employ Deep Learning models such as Convolutional Neural Networks (CNNs) to identify product inconsistencies and anomalies, ensuring high standards of quality assurance. Simultaneously, Data Science techniques, particularly predictive maintenance models, leverage real-time IoT sensor data to anticipate machinery failures before they occur. By applying Machine Learning algorithms like Random Forest, Support Vector Machines (SVMs), and LSTM-based time-series forecasting, manufacturers can predict equipment breakdowns and optimize maintenance schedules, reducing operational costs and minimizing downtime. The integration of AI and Data Science in smart factories also enables adaptive manufacturing, where production processes are optimized dynamically based on data-driven insights. Furthermore, the use of AI-powered automation raises ethical considerations, including the impact on employment, the need for workforce reskilling, and concerns regarding data security in interconnected manufacturing environments. Addressing these challenges is crucial for fostering responsible AI implementation in Industry 4.0. Overall, the fusion of AI, Data Science, and IoT in modern manufacturing is reshaping industrial workflows, improving productivity, and ensuring sustainable, data-driven decision-making in an increasingly competitive market.

Keywords:

Industry 4.0, AI in Manufacturing, Predictive Maintenance, Computer Vision, Deep Learning, Quality Control, IoT Analytics, Time-Series Forecasting, Anomaly Detection, Smart Factories, Convolutional Neural Networks (CNNs), Machine Learning, Industrial Automation, Data Security, Ethical AI, Workforce Reskilling, IoT Sensors, Adaptive Manufacturing.

NCICT250085

Creating a Summary Using AI

Vimal G

vimalganesasankar@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract

This paper examines recent advances in AI-based text summarization techniques, focusing on the evolution from extractive to abstractive methods and the integration of large language models. We analyze the performance metrics, challenges, and applications of various summarization approaches across different domains. Our findings indicate that while transformer-based models show significant improvements in generating coherent and contextually relevant summaries, challenges remain in handling domain-specific knowledge, ensuring factual consistency, and addressing bias. We propose a hybrid framework that combines the strengths of multiple summarization paradigmsand demonstrate its effectiveness through comparative evaluation.

Keywords:
Text summarization, natural language processing, abstractive summarization, extractive summarization, large language models, transformer architecture

NCICT250090

Federated Learning & Privacy-Preserving AI

Sathish Kumar Yadav

sathishkumaryadav292@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT

Federated Learning (FL) has emerged as a transformative paradigm in artificial intelligence, enabling collaborative model training across decentralized devices while keeping data localized. This approach addresses critical privacy concerns by allowing data to remain on users' devices, ensuring that sensitive information is never exposed to a central server.Privacy-Preserving AI, a cornerstone of FL, leverages advanced cryptographic techniques such as differential privacy, secure multi-party computation, and homomorphic encryption to further safeguard user data during the learning process. This paper explores the synergy between Federated Learning and Privacy-Preserving AI, highlighting their combined potential to revolutionize industries like healthcare, finance, and IoT, where data privacy is paramount. By enabling secure, decentralized learning without compromising data privacy,FL and Privacy-Preserving AI pave the way for ethical and responsible AI deployment in an increasingly data-driven world.Federated Learning (FL) has emerged as a transformative paradigm in artificial intelligence,enabling collaborative model training across decentralized devices while keeping data localized. Privacy-Preserving AI, a cornerstone of FL, leverages advanced cryptographic techniques such as differential privacy, secure multi-party computation, and homomorphicencryption to further safeguard user data during the learning process. This paper explores the synergy between Federated Learning and Privacy-Preserving AI, highlighting their combined potential to revolutionize industries like healthcare, finance, and IoT, where data privacy is paramount. We discuss key challenges, including communication efficiency, model robustness, and scalability, while presenting state-of-the-art solutions and future research directions. By enabling secure, decentralized learning without compromising data privacy, FL and Privacy-Preserving AI pave the way for ethical and responsible AI deployment in an increasingly data-driven world. This work aims to provide a comprehensive overview of the field, offering insights for researchers and practitioners seeking to harness the power of collaborative AI while upholding privacy standards.

Keywords:

Clear Problem Statement: Highlight the privacy concerns and the need foR solutions.

Definition of Key Concepts: Briefly explain FL and PPAI.

NCICT250091

Current Trends in AI and ML for Cybersecurity: A State-of-the-art Survey

D. VEERACHANDRU

veerac078@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract:

This paper provides a comprehensive survey of the state-of-the-art use of Artificial Intelligence (AI) and Machine Learning (ML) in the field of cybersecurity. The paper illuminates key applications of AI and ML in cybersecurity, while also addressing existing challenges and posing unresolved questions for future research. The paper also emphasizes the ethical and legal implications associated with their implementation. The researchers conducted a thorough survey by reviewing numerous papers and articles from respected sources such as IEEE, ACM, and Springer. Their focus centred on the latest AI and ML breakthroughs in cybersecurity, while also exploring current challenges and open research questions. The results indicate that integrating AI and ML into cybersecurity systems shows great potential for future research and development. Intrusion detection and response, malware detection, and network security are among the most promising applications identified. According to the survey, 45% of organizations have already implemented AI and ML in their cybersecurity systems, while an additional 35% plan to do so. However, 20% of organizations believe that it is not yet the right time for adopting these technologies. Overall,this paper serves as a reliable reference for researchers and practitioners in the field of cybersecurity, offering a comprehensive overview of the use of AI and ML. It not only highlights the potential applications but also addresses the challenges and research gaps.Additionally, the paper raises awareness about the ethical and legal considerations associated with leveraging AI and ML in the cybersecurity domain.

Keywords:

AI, ML, cybersecurity.

NCICT250095

Fractal Analysis and AI: Enhancing Cyclonic storm prediction

P PRAVEENA

praveenapadmanabhan904@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract:

This research presents a novel approach to improving cyclonic storm prediction by integrating fractal analysis with artificial intelligence (AI). Cyclonic storms pose significantrisks to coastal regions, necessitating accurate and timely predictions for effective disastermanagement. This study explores the hypothesis that the dynamic patterns of cyclonicstorms, which exhibit fractal characteristics, can be better understood and predicted throughfractal geometry and AI techniques. Fractal analysis is utilized to quantify the spatial andtemporal complexity of storm structures, including cloud patterns, wind fields, and pressuredistributions, using satellite imagery and meteorological data. These fractal metrics areincorporated as input features for AI-driven predictive models.

Machine learning and deep learning algorithms are trained on historical storm data to developro bust predictive models. The AI models integrate fractal dimensions, lacunarity, and other fractal parameters alongside conventional meteorological variables to enhance prediction accuracy. The study evaluates various AI architectures, including recurrent neural networksand convolutional neural networks, to analyze the temporal and spatial dynamics of cyclonicstorms.

The findings of this research aim to improve the precision and reliability of cyclonic stormpredictions, contributing to proactive disaster preparedness and mitigation strategies. Bycombining fractal analysis with AI, this study advances the scientific understanding ofcyclonic storm behavior, leading to more effective early warning systems and reduced risk for coastal communities.

Keywords:
Cyclonic Storm Prediction, Fractal Analysis, Artificial Intelligence (AI),
Machine Learning, Deep Learning, Meteorological Data, Satellite Imagery, Storm Intensity,
Storm Trajectory, Disaster Management, Recurrent Neural Networks (RNNs), Convolutional

NCICT250096

AI BASED DISEASE DETECTION FOR PLANTS AND SEMI MANAGEMENT FOR ROAD SIDE PLANTS AND TREES

Sam Daniel J

samjdaniel2004@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT-

This is an innovative project aimed at the enhancement of health and management of roadside plants and trees through AI and semi-autonomous systems. The main objective of this system is to create a disease-detecting AI-based system, utilizing machine learning and computer vision, to detect early signs of diseases in plants. The system can capture images of plants before costly treatments or replacements are done. use and improving efficiency. Some of the key challenges addressed involve a scheme that can raise enough and representative data to train AI models, ensuring accurate disease detection through an account of environmental factors, a scalable design for efficiency, and ease of use for system operation. Other expected outcomes of the system include improved early disease detection, reduced cost in plant management, and improved urban aesthetics along with environmental health. The significance of this project is that it possesses the potential to revolutionize urban landscaping by providing a robust, efficient, and sustainable approach for managing plants. Through its implementation of AI and semi-autonomous systems, it addresses current challenges in the management of plant care and could provide a basis for further innovations into environmental management and urban development.

KEY WORDS-

Convolutional Neural Networks (CNNs),Deep learning models,Transfer learning

NCICT2500935

ABSTRACT: Federated Learning for Privacy- Preserving AI

SARAVANAN M

m.saro.13.2005@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT:

Federated Learning (FL) is a decentralized machine learning paradigm that addresses privacy concerns associated with centralized data collection. FL enables collaborative model training across distributed data sources, such as personal devices or organizational silos, without requiring the transfer of sensitive data to a central server. By ensuring that raw data remains localized, FL minimizes risks related to data breaches and unauthorized access, fostering trust in AI systems. Key privacy-preserving techniques integrated into FL include differential privacy, which adds controlled noise to computations to prevent re-identification of individuals, and encryption methods like homomorphic encryption and secure multi-party computation, which ensure secure communication during model aggregation.These techniques collectively enhance the security of FL processes while maintaining high utility in trained models.FL has demonstrated significant potential across industries such as healthcare,finance, and IoT applications. For instance, it enables personalized healthcare solutions without compromising patient privacy and facilitates fraud detection in financial institutions without sharing sensitive transaction data. Additionally, FL is utilized in mobile applications like Google's Gboard and Apple's speech recognition systems.Despite its advantages, FL faces challenges such as communication overhead, data heterogeneity, and vulnerability to privacy attacks like model inversion or membership inference. Addressing these challenges through hybrid approaches—combining FL with differential privacy or advanced encryption—can further strengthen its privacy-preserving capabilities.

Keywords:

Federated Learning, Privacy-Preserving AI, Differential Privacy, Encryption Techniques, Decentralize

NCICT2500936

RESUME ANALYSER USING SLM

Susil Kumar Pradhan

susilkumarak47@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract

In today's fast-paced hiring landscape, efficient and precise resume analysis is crucial for streamlining recruitment. This project presents a Smart Resume Analysis System powered by Small Language Models (SLMs) to intelligently extract, evaluate, and rank resumes. Unlike traditional keyword-based systems, SLMs leverage Natural Language Processing (NLP) to accurately interpret candidate qualifications, match them with job requirements, and rank applicants based on relevance.The system follows a structured pipeline that includes resume parsing, data storage, job description input, automated screening, and ranking. It employs advanced models such as LayoutLMv3, T5, and DistilBERT for parsing, while Mistral 7B, RoBERTa, and GPT-3.5 Turbo handle screening. Data is stored efficiently in MongoDB or PostgreSQL, with a robust backend powered by FastAPI or Django and an intuitive frontend built using React or Flask UI.This solution enhances recruitment by increasing accuracy, reducing computational overhead,and cutting costs, making it highly effective for real-world hiring processes. It enables faster resume evaluation, intelligent candidate ranking**, and data-driven decision- making, addressing key challenges in traditional recruitment.**

Keywords:

Resume Screening, Small Language Models (SLMs), AI-Powered Hiring, NLP, Automated Job Matching

NCICT250100

AI-Driven Identification and Sustainable Cultivation of Medicinal Plants Using Data Science and IoT"

Priyankaa R

saisathyajith1819@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract:

The combination of Artificial Intelligence (AI), Data Science, and the Internet of Things (IoT) in the identification and sustainable cultivation of medicinal plants is transforming conventional agricultural and herbal medicine practices. AI-based image recognition and deep learning models improve the precise identification of plant species, minimizing human errors and enhancing classification efficiency. IoT-based smart sensors constantly track vital parameters like soil moisture, temperature, humidity, and nutrient content to provide ideal growth conditions. All these technologies together enable precision agriculture, resulting in increased crop yield,minimized wastage of resources, and enhanced monitoring of plant health.Data Science is essential in processing past and current data for predictive analytics towards disease detection, growth optimization, and climatic adaptability. Using big data and AI-based decision-making, farmers and scientists can adopt sustainable cultivation practices that reduce the environmental footprint while optimizing productivity. This method also ensures conservation of biodiversity and promotes quality control in the medicinal plant sector, improving the efficacy and standardization of herbal drugs for pharmauses.The envisioned AI-IoT system encourages a data-centric agricultural environment with green and sustainable farming practices. Through the combination of cutting-edge technologies, the system not only protects threatened medicinal plant species but also facilitates their large-scale cultivation, making them available for generations to come. This interdisciplinarity helps to modernize herbal medicine while supporting international sustainability objectives.

Keywords:

AI-driven identification, Data Science, IoT, Medicinal plants, Sustainable cultivation, Precision agriculture, Machine learning, Smart sensors, Biodiversity conservation, Quality control.

NCICT2501138

Interactive Learning: Enhancing Engagement in Mobile Learning Through Gamification and Real-Time Assessment

Gopinath K

karuppas579@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT

Interactive learning (I-learning) is an innovative approach that enables learners to access educational content using mobile devices, ensuring flexibility and accessibility in computing education. It provides opportunities for self-paced learning, real-time interaction, and knowledge retention beyond traditional classroom settings. However, existing e-learning methods face significant challenges, such as a lack of interactivity, limited engagement, passive content delivery, and difficulty in tracking learner progress. These limitations reduce motivation and hinder effective learning outcomes. To address these issues, we propose an interactive learning system that enhances engagement through gamification techniques, live-time quizzes, badge - reward systems, and progress tracking mechanisms. This system leverages Kahoot! for live-time quizzes, providing real-time assessments and interactive learning experiences. Power BI enables progress tracking, offering detailed analytics and performance insights to optimize learning outcomes. GamiPress integrates badge – reward system, ensuring motivation and sustained participation through gamification. The proposed system incorporates real-time assessments, personalized learning paths, achievement-based rewards, and analytics-driven progress tracking to keep learners motivated and improve their learning experience. By integrating these features, the system overcomes the shortcomings of conventional e-learning platforms, ensuring a more engaging, interactive, and effective learning environment for students in computing education.

Keywords:

Badge - reward systems, gamification techniques, i-learning, , live-time quizzes, progress tracking mechani

NCICT2501139

Development of a Novel AI-Based Framework for Automated Privacy Protection in Live Video Streams

Dinesh Kumar M

mdks.cse@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT:

In this digital age, videos and images shared on social media platforms often unintentionally contain Personally Identifiable Information (PII) such as Aadhaar numbers, PAN details, and addresses, leading to privacy breaches and identity theft. To address this, we propose an AI-driven real-time privacy protection system that uses Optical Character Recognition (OCR) and Machine Learning model to detect and blur sensitive information before content is uploaded or shared. Our system integrates live video processing, automated redaction, and secure storage, ensuring seamless privacy protection while maintaining content quality. This approach provides an effective privacy safeguard for social media users, content creators, and digital platforms.

Keywords:

Machine Learning, OCR, PII, Real-Time Privacy, Social Media.

NCICT250121

Lung Diseases Analysis and Prediction System

A.VennPiraiyan

venn.dsai22-1149@drmgrdu.ac.in

Dr. M.G.R. Educational and Research Institute

ABSTRACT:

The fight against major causes of mortality such as lung diseases requires proper and timely diagnosis. Recent diagnostic techniques frequently suffer from time lags and human error, thus the need for advanced, automated solutions. This project introduces a system of AI-based analysis of medical images, specifically X-rays and CT scans of lung diseases, especially pneumonia, tuberculosis, and lung cancer. The system utilizes cutting-edge technologies such as artificial intelligence and machine learning to increase the precision and efficiency of the diagnostic process. It first starts with data preprocessing to standardize and enhance images for analysis. Algorithms extract features from the images based on patterns associated with particular lung diseases. A robust predictive model is developed using a combination of deep learning approaches, including CNNs .To ensure reliability, the model is validated using metrics such as accuracy, precision, recall, and F1-score. Addressing the challenge of data scarcity, the system leverages a large dataset of labeled images, while strict privacy measures protect patient data. Ethical considerations, including patient privacy and data security, are paramount in the design and implementation of this system. This AI-based system has some benefits, including faster diagnosis and reduced burden on healthcare professionals. It has the potential to revolutionizethe field of respiratory medicine by improving diagnostic accuracy, ultimately enhancing patient outcomes. This project thus represents a promising advancement in leveraging technology to combat lung diseases.

Keywords:

Mortality, Lung diseases, Diagnosis, AI-based analysis, Medical images, X-rays, CT scans, Pneumonia,Tuberculosis, Lung cancer, Artificial intelligence (AI),Machine learning (ML).

NCICT250124

WATER QUALITY MONITORING SYSTEM FOR MICROGRAVITY ENVIRONMENT BASED ON TDS VALUES

P. Sai Shanmukha

shanmukhgamings@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract

This project develops an AI-powered Railway Security System to enhance safety and preventun authorized activities. Using computer vision, IoT, and AI-based anomaly detection, it identifies threats like trespassing, unattended baggage, and suspicious behavior. The system integrates real-time CCTV monitoring, facial recognition, and deep learning models to analyze video feeds and generate alerts for immediate response. Automated access control enhances security in restricted areas. This project applies AI, deep learning, and IoT for smart surveillance, enabling proactive threat detection and automated security monitoring.

Keywords:

Computer Vision, IoT, Deep Learning.

NCICT250126

Domain-Specific Dataset Creation for Subjective Question and Answer Using the T5 Transformer Model

Senthilkumar P

way2sen@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract

In order to achieve success in academic and competitive examinations, the implementation of mock tests plays a crucial role, and the majority of these mock assessments are structured like the method of Question Answering (QA), which is one of the fields of Natural Language Processing (NLP). QA systems have two essential components: automatic question generation and automatic answer assessment. Question generation involves framing questions from a given context with the keywords, while answer assessment compares the generated question's context as the answer for the question. These con-cepts form the foundation of the effective QA method, and this approach is essential for framing mock tests. Developing such QA systems requires a suitable dataset. A specific-domain dataset often performs better than generic-domain datasets in terms of speed, hardware efficiency, and accuracy. However, there is limited availability of computer science domain-specific datasets tailored for subjective examinations, and existing datasets often fail to meet these requirements. To address this gap, we create a domain-specific dataset, which consists of a two-phase dataset creation process. The first phase involves computer science related data collection from Wikipedia, and the second phase employs the T5 transformer model for dataset generation. By combining these methods, we introduce a domain-specific dataset for subjective question-answering in the computer science domain. The resultingdataset comprises three columns: Sentences, Keywords, and Generated Questions. It covers 406 computer science topics and includes 148,740 subjective questions. The automatically generated questions from the dataset perform better than other baseline approaches based on the basic metrics score, such as Bleu, Rouge, and Meteor, with the ground truth.

Keywords:

NLP; T5; Questions Generation; AQG

NCICT250131

CREATING AWARENESS FOR SAFE ONLINE BEHAVIOUR FOR CHILDREN THROUGH GAMES AND SIMULATION

Sreeram S

myselfsree.03@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract

With the growing use of digital platforms, children face risks like cyberbullying, cyberstalking, inappropriate content, fake profiles, and online predators. To address these threats, we developed a web application that enhances cybersecurity awareness among kids. It offers educational resources, interactive learning modules, and real-world scenarios to help them recognize and respond to online dangers.

The platform also guides safe gaming practices, promoting a secure digital experience. Our solution empowers children to navigate the online world confidently and responsibly by fostering awareness and proactive behavior.

Keywords:

Cyber bullying, Cyber stalking, Inappropriate content, Fake profiles, Online Predators, Phishing and Scams.

NCICT250151

RISK PROFILING: A COMPREHENSIVE FRAMEWORK FOR CYBER THREAT ANALYSIS

YaminieRavichandran

ryaminie@gmail.com

New Prince ShriBhavani College of Engineering and Technology

Abstract:

In the evolving landscape of cybersecurity, identifying and mitigating potential risks associated with digital assets is crucial. This research presents a Risk Profiling framework that integrates domain intelligence techniques such as Whois history, reverse Whois, Subfinder, DNSx, HTTPx, Naabu along with third-party APIs, to analyze security threats. The system collects and correlates domain information, subdomain enumeration, DNS records, HTTP response analysis, and network scanning to assess vulnerabilities.A key component of this study is the development of an interactive dashboard that visualizes security insights and generates automated PDF reports. The proposed methodology enhances risk detection efficiency and provides actionable insights for security analysts. Preliminary results indicate a significant improvement in identifying malicious domains and potential attack surfaces.This research contributes to cyber threat intelligence by providing a structured, automated approach to risk profiling, reducing manual effort and increasing accuracy. The findings have implications for organizations looking to strengthen their cybersecurity posture.

Keywords: Cybersecurity, Risk Profiling, Domain Intelligence, Automated

Threat Analysis,

NCICT2501545

AI-Powered Personal Finance Assistant

B.VijayendraGowtham

rongalisandeepnaidu69@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract

This project develops an AI-powered personal finance assistant designed to streamline financial management. Leveraging machine learning, the system analyzes user spending patterns, provides personalized budget recommendations, predicts future expenses, and offers actionable insights for improved financial health. This assistant aims to empower users to make informed financial decisions through intelligent automation and data-driven analysis. This mini-project explores the development of an AI-driven personal finance assistant to simplify and optimize individual financial management. By utilizing machine learning algorithms, the system automates tasks such as budget creation, expense tracking, and financial forecasting. The goal is to provide users with a user-friendly tool that enhances financial literacy and promotes better financial decision-making. This project investigates the application of natural language processing and machine learning techniques to create an intelligent personal finance assistant. The system employs algorithms for expense categorization, predictive modeling, and personalized recommendation generation. This prototype demonstrates the feasibility of utilizing AI to automate and enhance personal financial management through intelligent data analysis and user interaction.

KEYWORDS:

AI,ML

NCICT2501546

Personalized Travel planning

S.L.Vignesh Kumar,

slvkumar8097@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT

In an era of digital transformation, personalized travel planning has emerged as a game-changer, reshaping how travelers explore the world.Unlike traditional, one-size-fits-all itineraries, personalized travel planning leverages user preferences, real-time data, and AI-driven insights to create tailor-made experiences. By analyzing factors such as budget, interests, past travel behavior, and real-time conditions (weather, events, local trends),these smart systems craft dynamic itineraries that enhance convenience and satisfaction. Advanced recommendation engines, powered by machine learning and big data analytics, help travelers discover hidden gems, optimize routes, and adjust plans on the go. Integration with user-generated content and social networks further refines recommendations, making each journey unique and deeply personal. Additionally, sustainability considerations and local cultural insights are increasingly incorporated, allowing travelers to make ethical and immersive choices. As AI and automation continue to evolve, the future of personalized travel planning promises even greater adaptability, hyper-personalized recommendations, and seamless integration with smart devices. This paper explores the latest innovations, challenges, and future prospects of AI- driven personalized travel planning, highlighting its transformative impact on the travel industry.

KEYWORDS: Big Data Analytics, Smart itineraries, User preferences, Real- time Travel data.

NCICT250165

DESIGN AND IMPLEMENTATION OF ON DUTY AND LEAVE MANAGEMENT SYSTEM

VEL SIDDHESHWAR S

210801234@rajalakshmi.edu.in

Rajaalakshmi Engineering College

Abstract

The On-Duty Leave Approval Management System(OLAMS) is a web-based platform designed to streamline the process of on-duty (OD) leave approval for students. Traditional OD leave approval is time-consuming and lacks transparency,leading to inefficiencies in academic institutions. This system automates OD requests, tracking, and approvals, ensuring a seamless interaction between students, faculty, and HoDs. It provides a limited OD count, real-time status indicators, faculty oversight, and secure authentication via institutional credentials. This paper presents the design, implementation, and benefits of OLAMS in enhancing administrative efficiency in educationalinstitutions. The system is developed using Flask for backend processing and MySQL/SQLite for data management, offering a scalable and secure platform. The user-friendly interface, built with HTML5, CSS3, JavaScript, and Bootstrap, enables students to submit OD & Leave requests online, while faculty and HoDscan approve or reject requests with minimal delays. A real-time status tracking system provides students with instant updates on their leave approvals, improving transparency. Key features include automated OD & Leave tracking, emergency extensions for special cases, real-time notifications, and institutional SingleSign-On (SSO) authentication. The system also integrates role-based access control (RBAC) to ensure secure user management,and a quota-based constraint engine that prevents unauthorizeleave requests.

Keywords: OD Leave, Leave Management, Faculty Approval,

Student Portal, Web-based System.

NCICT2501648

Vulnerability Detection Automation with AI-based risk and patch recommendation system

Vedhapprakashnivedhapprakashni

vedhamuthukumar@gmail.com

SRM

Abstract

Automated Vulnerability Detection is essential for securing a network. This paper suggests a Vulnerability Detection Automation System that integrates API-based security intelligence with patch recommendations using Machine learning. The system does thorough network scanning using Nmap, detects open services, and calls security databases to retrieve real- time Common Vulnerabilities and Exposures (CVE) information such as severity, descriptions, CVSS scores, and remediation sources. For better security response, the system uses Falcon 7b instruct from Hugging Face which hosts a vast repository of pre- trained machine learning models to provide customized patch recommendations for the discovered vulnerabilities. The system also provides command-line remediation plans so that security teams can respond in time. The security report is presented in text and PDF and automatically sent to registered email of the user using Mailtrap's SMTP service. Thesuggested automation minimizes human effort and speeds up security auditing.

Keywords

Cybersecurity, Vulnerability Scanning, Vulnerability Management, Nmap, AISecurity Analysis, Automated Reporting, Threat Detection, Machine Learning , AI-basedpatching, Email Automation.

NCICT2501649

Design An Online Chatbot Bus Booking With Carbon Footprint Insights Using NLP

Yamuna sri

yamunaparthasaradhi18@gmail.com

Mohan Babu University,

Abstract

The development of a smart online bus booking application with carbon footprint insightsusing Natural Language Processing (NLP) aims to address two pressing challenges:enhancing the efficiency of public transportation systems and reducing the environmentalimpact of travel. With the rise in urbanization and the increasing environmental concernssurrounding transportation emissions, there is a significant need for sustainable travelsolutions. Current bus booking systems often lack real-time insights into carbon emissions,leaving passengers unaware of the environmental impact of their travel choices. Thisapplication leverages NLP to provide users with an intuitive interface that allows them tobook buses easily, access real-time updates, and receive carbon footprint data associated withtheir journey. The application calculates the emissions based on route selection, distance, andthe type of bus used, offering users actionable insights to make eco-conscious decisions. Theunderlying algorithm integrates NLP for natural language queries, allowing users to inputrequests in a conversational manner, and a carbon emission calculation model based on real-time data, including environmental factors and vehicle efficiency. By combining thesetechnologies, the application not only facilitates smarter and more sustainable travel but alsoencourages passengers to actively participate in reducing their carbon footprint. Thisinnovative approach represents a significant step towards creating a more sustainable urbanmobility ecosystem.

Keywords:

Smart Bus Booking, Carbon Footprint Insights, Natural Language Processing (NLP), Sustainable Transportation, Eco-Friendly Travel, AI-Powered Cha- 0169

NCICT250170

Automated Machine Learning (AutoML): A Survey of Tools and Techniques

Vignesh G R1

vv9003754797@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT:

Automated Machine Learning (AutoML) has emerged as a transformative approach to streamline the development and deployment of machine learning models by automating various stages of the machine learning pipeline. As data- driven decision-making becomes increasingly vital across diverse industries,AutoML provides a practical solution to overcome the challenges associated with manual model selection, hyperparameter tuning, feature engineering, and model evaluation. This survey paper presents a comprehensive overview of AutoML tools and techniques, highlighting their applications in data analytics, healthcare, finance, and more. We discuss the fundamental concepts and methodologies underlying AutoML, including neural architecture search (NAS), hyperparameter optimization, and automated data preprocessing. Furthermore, we evaluate popular AutoML frameworks such as AutoKeras, TPOT, H2O.ai, and Auto-sklearn, comparing their features, performance, and usability. The paper also addresses the challenges and limitations associated with AutoML, including model interpretability, scalability, and real-time deployment. By analyzing current trends and future research directions, this survey aims to provide insights into the evolving landscape of AutoML, guiding researchers and practitioners toward leveraging automated techniques for building efficient and robust machine learning models.

Keywords:

AutoML, Automated Machine Learning, Hyperparameter Optimization, Neural Architecture Search, Model Evaluation, Feature Engineering, Machine Learning Pipelines, Auto-sklearn, AutoKeras, H2O.ai,TPOT.

NCICT250173

BlogGenie-AI Blog Agent for Effortless Content Creation

Jayna Mukesh

jaynamukee@gmail.com

SRM Institute of Science and Technology

Abstract

In the rapidly evolving digital landscape, content creation is pivotal foronline engagement and brand development. However, the production of consistent, high-quality and SEO-optimized content remains a challenge due to the requisite time andexpertise. Blog Genie emerges as an innovative AI-based tool designed to transformcontent generation, making it more efficient, scalable and tailored to user requirements.Our system integrates LLaMA 3.2 for high-quality text generation and Stable Diffusion 2for AI-driven image creation, enabling seamless content production. Unlike traditional AItools, it ensures a human-like writing style by analyzing search trends, optimizing forkeywords, and automatic publishing in various social media platforms. This methodologyenables businesses, bloggers and digital marketers to enhance their online presence withminimal effort. Beyond content generation,Blog Genie also optimizes content distribution.It automates scheduling and publishing across multiple online platforms, streamliningcontent management and allowing businesses to maintain a consistent posting schedule. Anotable strength of Blog Genie is its adaptability across diverse content domains, includingtechnical blogs, lifestyle articles, product reviews, and educational materials. Additionally,its capacity to adapt to specific industries 's brand tones, and audience preferencesdistinguishes it from generic AI tools,resulting in more customized and impactful content.As AI-driven solutions redefine digital marketing and content strategies, Blog Genie standsat the forefront of this transformation.

Keyword:

AI Content Generation**,** SEO Optimization**,** Blog Automation

NCICT250178

The potential of quantum computing to revolutionize AI

Sri Vaishnavi

vaishnavisri373@gmail.com

Mohan Babu University,

ABSTRACT

Abstract- Rice is a major crop of India but suffers from many diseases while beingcultivated, which are hard to diagnose manually with the limited knowledge of farmers. DeepLearning has recently stepped up in its advances with automated disease detection usingConvolutional Neural Networks (CNNs). But there is no large amount of labeled datasets forrice diseases so far. Thus, our use of a self-created tiny dataset for training in deep learning isa measure to overcome. Because the size of our dataset is small in number, we appliedTransfer Learning methods with the pre-trained model of VGG16 and fine-tuned it on ourrice leaf images. The model trained on field and internet-sourced image data accuratelyclassified rice leaf diseases and thus helps in accurate and quicker identification of diseases.This proves the applicability of CNNs and Transfer Learning in agriculture-oriented areaswith an automated system to help farmers manage diseases and enhance crop yield quality.

Keywords

Rice diseases, CNN, Transfer Learning, VGG16, Deep Learning, Agriculture.

NCICT250180

Enhanced multi view AVSR with Parallel WaveGan

Shiny Angel Bright

shinybright8424@gmail.com

Tagore Engineering College

Abstract

Audio-Visual Speech Recognition (AVSR) is a rapidly evolving field that enhances speech processing by integrating both audio and visual modalities. However, existing AVSR models face challenges in handling multi-view scenarios, occlusions, and background noise, leading

to reduced recognition accuracy. This paper proposes an Enhanced Multi-View AVSR framework that leverages Parallel WaveGAN for speech enhancement and robust scene detection. The system integrates multi-view feature extraction techniques to capture diverse visual cues and improve speech intelligibility, even under challenging conditions. The proposed approach aims to enhance AVSR performance by incorporating multi-stream fusion to align and merge information from different viewpoints, reducing occlusion-related errors. Additionally, Parallel WaveGAN is utilized for generating high-fidelity audio representations, mitigating noise distortions, and improving speech clarity. This framework is designed to be applicable in surveillance, human-computer interaction, and assistive technologies, where accurate speech recognition and scene understanding are critical. Future work will involve rigorous experimentation to validate the effectiveness of this approach.

Keywords:

Audio-Visual Speech Recognition, Multi-View Learning, Parallel WaveGAN, Scene

Detection, Deep Learning.

NCICT250189

AI-driven threat detection in IoT networks

T.Tharaniselvi.

tharaniselvi0006@gmail.com

GTN Arts College

Abstract:

The increasing adoption of Internet of Things (IoT) devices has led to a surge in security concerns due to their constrained computational capabilities and vulnerability to cyber threats. Conventional security approaches often fail to keep pace with the dynamic and heterogeneous nature of IoT networks. This paper introduces an AI-driven threat detection system that employs machine learning (ML) and deep learning (DL) models to detect and mitigate security risks in real time. The proposed framework incorporates anomaly detection techniques, behavioral analytics, and threat intelligence to enhance IoT security. A combination of supervised and unsupervised learning is utilized to identify malware, unauthorized access attempts, and network anomalies. Experimental results indicate that the AI-powered system achieves superior detection accuracy while maintaining a low false positive rate compared to traditional security mechanisms. Additionally, the study explores the integration of edge computing to enable real-time threat analysis, thereby reducing latency and improving system efficiency. The findings highlight the significance of AI-enhanced cybersecurity solutions in strengthening IoT networks against emerging threats.

Keywords:

Internet of Things (IoT), Artificial Intelligence (AI), Machine Learning (ML) Deep Learning (DL), Cybersecurity, Anomaly Detection, Edge Computing.

NCICT250190

AI DRIVEN CHARGING SYSTEM WITH SOLAR ENERGY

Maimoon Beevi

beevimaimoon495@gmail.com

R.M.D ENGINEERING COLLEGE

ABSTRACT:

The Charging system using wireless technology represents a groundbreaking advancement in EV charging solutions. By eliminating the need for physical charging cables and connectors, this system allows for a seamless and convenient charging experience.

The ChargeHub uses advanced wireless power transfer technology to efficiently charge EVs while parked over a designated charging pad. The system features smart management capabilities that optimize charging efficiency, monitor battery health, and provide real time updates to users through a mobile app.

During the day, a solar panel captures sunlight and stores the generated electricity in a battery. When the LDR sensor detects darkness at night, the system automatically switches to grid power. This setup optimizes energy use by relying on solar power first and using the grid only when necessary.

This innovation aims to enhance user satisfaction, improve the efficiency of the charging process, and contribute to a cleaner, more sustainable future for transportation.

KEYWORD:

Wireless Charging, Electric Vehicles (EVs), Wireless Power Transfer

SMART MOTOR TROUBLESHOOTING AND PREDICTIVE MAINTENANCE CHATBOT

J. Amirtha Harshini

amirthaharshini11d@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT:

Deep learning is a branch of machine learning and artificial intelligence that has modernized various field sranging from computer vision to natural language processing, inspired by the structure of human brain with powerful tools. The target of deep learning is to manipulate the power of artificial neural networks to solve complex problems, and extract meaningful insights from data in wide Range of applications. The motive of deep learning is to create algorithms and model capable of automatically learning indication of data from complex data groups. The key challenges faced by deep learning includes biasing & fairness, over fitting issue which lead to poor generalization to unseen data, Black boxes and researchers have a hard time understanding how they deduce conclusions, lack of flexibility. The solutions for these challenges are regularization techniques & cross validation, distributed training mitigation and fairness aware training and defense mechanism. The abstract then delves into the intricateness of deep neural network architecture and revealing its transformative potential and aims to provide future directions of Artificial Intelligence. This abstract expedition as it charts a course through the uncharted realms of deep learning, where innovation meets its analysis, and discovery awaits at every turn.

Keywords:

Mitigation, Intricacy, Fairness, Biasing, Neural network.

NCICT250193

ENHANCED REAL TIME ANOMALY DETECTION IN VIDEO SURVEILLANCE USING SPATIO TEMPORAL ENCODERS AND STREAMLINED INTERFACE

Mr. Harrish KG

harrish3152004@gmail.com

Sathyabama Institute of Science and Technology

Abstract :

This project presents a robust approach to real-time anomaly detection in video surveillance systems using Spatio-Temporal Autoencoders and a user-friendly Streamlit interface. Traditional anomaly detection methods face challenges with dynamic environments, often leading to high false positive rates and delayed responses. The proposed system effectively captures spatial and temporal dependencies in video data, enabling accurate detection of deviations from normal behavior. A Streamlit-based interface enhances real-time monitoring, visualization, and user interaction, providing actionable insights. Evaluated on public video datasets, the system demonstrated superior accuracy and reduced false positives compared to existing methods. This work offers a scalable, efficient, and interactive solution for enhancing public and private security through advanced video surveillance technologies.

Keywords:

Spatio-Temporal Autoencoders, Real-Time Anomaly Detection, Video Surveillance, Deep Learning, Streamlit Interface, User Interaction,Security Systems, Dynamic Environments, False Positives, Data Visualization.

NCICT250194

Predictive Analytics for Climate-Driven Crop Yield Forecasting Using Machine Learning

Hementhkumar S

heamanthsakthi@gmail.com

Sathyabama Institute of Science and Technology

Abstract :

Accurate yield prediction is crucial for sustainable farming since climate change has a substantial impact on agricultural productivity. In order to create a prediction system that predicts crop production based on historical climate records of a region, and environmental parameters, this study uses advanced machine learning techniques which are more effective in predictive analysis. The conventional estimation techniques by analyzing complex climate-yield relationships and by using machine learning models XGBoost, Random forest andGradient Boosting.The system improves prediction accuracy by comparing these machine learning models results and gains insights from it. In order to assist farmers, researchers, and policymakers in making adaptive decisions, it has a visualization module that includes geospatial heat maps. Climate risks are reduced and agriculture tactics are optimized with the predicted insights.This approach incorporates high- dimensional climate data and shows improved accuracy compared to traditional models. Its robustness is confirmed by validation using RMSE, and R2 score. According to experimental findings, the suggested method performs exceptionally well in forecasting yield fluctuations in a range of climatic circumstances.

Keywords :

predictive modeling, real-time data integration, machine learning, big data analytics, climate yield prediction, and

NCICT250200

DRUG SUPPLY MANAGEMENT SYSTEM

Kunchala Anjali

kunchalaanjali7656@gmail.com

Mohan Babu University,

ABSTRACT:

The Drug Supply Management System is designed to streamline the procurement, and Distribution of drugs in healthcare facilities. Nowadays, many healthcare facilities suffer from inefficiencies in their drug inventory and supply chain management systems, leading to issues such as overstocking, drug shortages, inefficient vendor management, unnecessary costs, and it is negatively impact on healthcare systems and also patient care. This paper proposes the implementation of effective management of drug supply system to ensure that essentials medicines are consistently available where and when they are needed. It integrates real-time monitoring, automated alerts, timely restocking, data-driven decision making, predictive analytics and an intuitive user interface to streamline management system by using this technologies (real-monitoring and mobile frameworks and algorithms(predictive algorithms, ABC analysis). The ultimate goal of this project is to enhance the customer satisfaction.

KEYWORDS:

Real-time Monitoring, Automated Alerts, Predictive Analytics, Timely Restocking.

NCICT250204

SMART CHARGING STATIONS FOR ELECTRIC VEHICLES

Bestha Navatheswari

besthanavatheswari@gmail.com

Mohan Babu University,

ABSTRACT:

The transition to electric vehicles (EVs) is a critical step in reducing transportation-related pollution. The environmental impact of EVs depends significantly on the energy sources used for charging. This project aims to identify/navigate smart charging stations that integrate renewable energy sources (such as solar and wind) with smart grid technology to create a sustainable, pollution-free charging infrastructure. The proposed system will prioritize renewable energy for charging, reducing dependency on fossil fuels and minimizing carbon emissions. By integrating smart grid technology, the stations will dynamically manage energy flow, allowing EVs to not only to draw power but also return excess energy to the grid. This two-way energy transfer enhances grid stability and supports a more resilient energy network. Furthermore, the system incorporates machine learning to optimize charging schedules based on real-time energy demand and availability, reducing peak loads on the grid. This application can provide the facilities at the stations like cafeteria, gas filling stations, washrooms, relax rooms like.

Key Words:

Electric Vehicles (EVs), Smart Charging Stations, Renewable Energy, Solar Power Wind Power, Smart Grid Technology, Sustainable Charging Infrastructure, Pollution- Free Energy.

NCICT250209

Balancing Pesticides Production and Environmental Agricultural Farming

P. venkateswarlu Reddy

shaikshahilsha@gmail.com

Mohan Babu University,

Abstract:

Horticulture is a critical area in India's economy, with ranchers being vital to food creation. Nonetheless, different difficulties like soil variety, eccentric climate, and plant infections influence crop yield and quality. This paper analyzes the use of cutting edge AI (ML) methods to work on rural works on, zeroing in on soil expectation, crop choice, and plant illness recognition, to assist ranchers with tending to these difficulties and lift their efficiency. Soil expectation assumes a pivotal part in figuring out which harvests are the most ideal for specific locales, as soil quality and type essentially influence yield. AI models like RandomForestClassifier, DecisionTreeClassifier, and Backing Vector Arrangement (SVC) can examine soil boundaries to anticipate the ideal harvests for various soil types across India. Also, MLcontrolled crop proposal frameworks utilizing calculations like RandomForestClassifier, DecisionTreeClassifier, and AdaBoost can assist ranchers with picking the most beneficial harvests in view of elements like area, soil wellbeing, yield potential, and market patterns. These information driven devices support ranchers in settling on informed choices that improve benefit while advancing economical cultivating rehearses. Besides, plant illness identification is a basic region in current farming, as sicknesses can prompt extreme harvest misfortunes. AI procedures like Convolutional Brain Organizations (CNN), Fake Brain Organizations (ANN), and Mobilenet can productively identify and order sicknesses in their beginning phases, restricting their spread and limiting harm to crops. By recognizing and tending to sicknesses instantly, ranchers can guarantee better harvests and more significant returns. This paper presents an all encompassing way to deal with offsetting pesticide use with natural manageability through the use of AI advancements in soil forecast, crop proposal, and plant illness identification. By embracing these innovations, ranchers can increment efficiency, diminish dependence on hurtful pesticides, and encourage a more feasible horticultural framework.

Keywords:

Soil Expectation, Harvest Suggestion, Plant Illness Discovery, RandomForestClassifier, DecisionTreeClassifier, SVC, Calculated Relapse, GaussianNB, MLPClassifier, CNN, ANN, Mobilenet, AdaBoost, XGBoost.

NCICT250210

AI-Enhanced Career Guidance System for Personalized Career Pathways

Dudekula Saidanagari Kasim Vali

kasimvalisydannagari@gmail.com

Mohan Babu University

Abstract:

Selecting a suitable career-like anything else-is almost always convoluted, as the overwhelming alternatives clash with fast-moving circumstances in the job market. Conventional methods of career guidance usually give common ideas that shouldn't be applied to a person's particular interests, skills, or aspirations. This paper presents an AI-enhanced Career Guidance System that utilizes artificial intelligence in order to provide personalized career advice. It considers an individual's education, skills, and interests and provides suggestions on career paths, short-term courses, and skill development programs. The system further monitors changes in trends in the job market in order to provide updates on its recommendations. The system hence provides customized and personalized guidance, increasing the chances for the users to make statements about their careers and to achieve their aspirations.

Keywords:

AI-powered career guidance, Machine learning in career counselling, Personalized career pathways, Skill gap analysis, Job market trends, Natural language processing, AI-driven recommendations, Career decision-making.

NCICT250213

Predictive Modelling for Parkinsons Disease Diagnosis Using Machine Learning

T. Naga Suresh

tnagasuresh2003@gmail.com

Mohan Babu University,

ABSTRACT:

Background: Parkinson's disease is a neurodegenerative condition that may have motor and some non-motor features. Early and correct diagnosis is the foundation for timely and appropriate management, leading to improved patient outcomes. Diagnostic procedures employed traditionally are very time- consuming and subjective. Machine learning models need to be created and validated for effective early detection of this disease using easily accessible clinical and demographic information. Methods: This research will utilize a retrospect database of the patients, covering both patients with and without Parkinson's disease. Feature engineering will be called to draw meaningful information from the demographic data as well as the clinical parameters. Appropriate measures will guarantee the formation and testing of different machine learning models. Results: It is anticipated that the use of machine learning algorithms in diagnosing Parkinson's disease will be highly accurate and sensitive in aiding clinicians to complete the diagnosis at an early point and make their assistance towards patient treatment. Novelty: The novelty of this proposal is in combining a number of data modalities-including clinical, imaging, and genetic data-to construct an integrated prediction model for PD diagnosis. Additionally, the application of ensemble methods and deep learning as paradigms of machine learning will guarantee the improvement of operational accuracy and consistency of the model.

Keywords:

Clinical data, Demographic data, Machine learning, Deep learning, Early diagnosis, Diagnosis accuracy, Genetic data, Medical Decision support.

NCICT250216

Smart Traffic Control System for Ghat Roads using IoT-Based Vehicle Detection

Apoorva M

apoorvam515@gmail.com

ATRIA INSTITUTE OF TECHNOLOGY

Abstract:

Ghat roads are essential for connectivity in hilly terrains, but they present unique challenges due to their steep gradients, sharp hairpin bends, limited visibility, and unpredictable vehicular movement. The high incidence of accidents in such regions is primarily due to inadequate adaptive traffic control mechanisms. Traditional traffic management solutions, such as fixed- timer signals and manual traffic control, fail to respond to real-time traffic density variations, leading to inefficient congestion management and heightened accident risks. This paper presents an IoT-driven Smart Traffic Control System that integrates infrared (IR) sensors, a Raspberry Pi-based embedded control unit, cloud-based analytics, and real-time signal regulation to optimize vehicular movement dynamically. The system employs IR sensor arrays to detect oncoming vehicles, processes the data using an edge-computing framework on a Raspberry Pi microcontroller, and dynamically adjusts traffic signals based on vehicular density and flow patterns. The implementation includes an MQTT-based cloud communication protocol for remote monitoring and performance evaluation. The system's architecture ensures low-latency data processing, real-time decision-making, and scalability, making it adaptable to varying traffic conditions. By leveraging IoT protocols and real-time sensor fusion, the proposed system ensures efficient traffic flow regulation, collision prevention, and accident mitigation, especially in high-risk ghat road sections. Prototype development involves hardware integration, software deployment, and field simulation to assess system efficacy. Future advancements in this model include AI-based predictive analytics, adaptive traffic control algorithms, and solar-powered deployment to enhance operational sustainability. This research contributes towards an intelligent, automated, and resilient traffic control framework tailored for accident-prone ghat roads, ensuring enhanced road safety, reduced congestion, and optimal traffic management through IoT- enabled automation.

KEYWORD:

Ghat Road, Traffic Control, IoT (Internet of Things)

NCICT250217

AI-Powered Deaf Companion System for Inclusive Communication Between Deaf and Hearing Individuals

Gayathri P,

gayathriparamasivam55@gmail.com

LOYALA INSTITUTE OF TECHNOLOGY AND SCIENCE

Abstract :

Effective communication is vital for sharing information, ideas, and emotions. However, it remains a significant challenge for individuals with hearing and speech impairments. While sign language offers a means of communication for deaf individuals, it is often difficult for non-signers to interpret and understand. Existing sign language recognition technologies have limitations in accuracy and accessibility. This project presents an AI-driven system designed to bridge the communication gap between deaf and hearing individuals. Leveraging advancements in deep learning, particularly Temporal Convolutional Networks (TCNs), the system aims to create a seamless two-way communication experience. The system includes three core modules: a Sign Recognition Module (SRM) that interprets signs using TCN, a Speech Recognition and Synthesis Module (SRSM) powered by Hidden Markov Models, which converts spoken language into text, and an Avatar Module (AM) that visually translates the speech into corresponding signs. The system is trained on Indian Sign Language and is capable of facilitating communication across diverse groups, including deaf, mute, hard-of hearing, visually impaired, and non-signers. The developed web-based user interface enhances the system's accessibility and ease of use. Experimental results on MNIST sign language recognition datasets demonstrate the effectiveness of the proposed framework, with the TCN model achieving an accuracy of 98.5%. This system represents a significant step forward in making communication more inclusive and accessible for all.

KEYWORD:

Sign Language Recognition (SLR), Artificial Intelligence (AI), Deep Learning,Temporal Convolutional Networks (TCNs)

INTELLIC: An Intelligent Chatbot for Mental Support and Wellness

Kokila.M

shahanasharaf04@gmail.com

LOYALA INSTITUTE OF TECHNOLOGY AND SCIENCE

ABSTRACT:

Intellic is an innovative, AI-powered Chat bot designed to provide personalized mental health support and wellness guidance, leveraging natural language processing and machine learning algorithms to engage users in empathetic conversations, assess emotional states, and offer tailored coping strategies, resources, and referrals, aiming to bridge the gap in accessible mental health care and promote emotional well-being and resilience. By providing immediate support and guidance, Intellic addresses the growing mental health needs of modern society, offering a safe, anonymous, and non-judgmental space for users toshare their concerns and emotions.With its user-centric design and evidence-based approaches,Intellic has the potential to revolutionize mental health support, making it moreaccessible, affordable, and effective for individuals worldwide. Intellic's advanced natural language processing capabilities enable it to understand and respond to users' emotional cues, providing a empathetic and supportive conversation experience. The chatbot's knowledge base is continuously updated with the latest mental health research and best practices, ensuring that users receive accurate and reliable information.Ultimately, Intellic has the potential to transform the mental health landscape, providing a scalable, accessible, and effective solution for individuals seeking support and guidance. By harnessing the power of AI and machine learning, Intellic can help bridge the mental health gap, promoting a culture of wellness, resilience, and emotional intelligence.

KEYWORD:

AI-powered Chatbot, Mental Health Support, Natural Language Processing (NLP), Machine Learning (ML)

AI-Powered Image editing React Native app: text-to-image, image-to-avatar Generation

Pushpavathi

pushpavathip1999@gmail.com

ATRIA INSTITUTE OF TECHNOLOGY

Abstract

Artificial intelligence has revolutionized digital creativity, enabling powerful image editing tools with automated and intelligent features. This paper introduces an AI-powered image editing mobile application developed using React Native, incorporating advanced capabilities such as text-to-image generation and image-to-avatar transformation. The application utilizes deep learning models, including Generative Adversarial Networks (GANs) and Diffusion Models, to generate high-quality images from textual descriptions and convert user-uploaded images into personalized avatars with unique artistic styles. The app features an intuitive user interface, real-time processing, and cross-platform compatibility, making AI-driven image editing accessible on mobile devices. The text-to-image module converts natural language prompts into visually realistic images, while the image-to-avatar module applies facial recognition, neural style transfer, and enhancement techniques to create customized avatars. These functionalities empower users to generate creative digital content effortlessly, catering to artists, designers, and social media enthusiasts. Performance evaluations highlight the efficiency and accuracy of the proposed AI models, ensuring smooth real-time processing and high-quality outputs. Future enhancements will focus on improving model precision, expanding the range of artistic styles, and optimizing computational efficiency for mobile environments. This work contributes to the growing field of AI-driven digital content creation, offering an innovative and scalable solution for image transformation on the go.

KEYWORD:

AI-powered Image Editing, Artificial Intelligence (AI), Deep Learning

Offensive Language Detection on Social Media Based on Text Classification

Vankadari Yasaswini

vankadariyasaswini07@gmail.com

Mohan Babu University

ABSTRACT:

The increasing prevalence of offensive language on social media platforms poses a significant threat to individuals and communities, often leading to bullying and emotional harm. To address this issue, the research community has explored various supervised learning approaches and developed specialized datasets aimed at the automatic detection of offensive content. In this study, we propose a robust model for offensive language detection that integrates a modular preprocessing phase, three embedding techniques, and eight classifiers.Our model begins with a comprehensive cleaning and tokenization process to prepare the data for analysis. We then explore three different embedding methods, including Term Frequency-Inverse Document Frequency (TF-IDF), to capture the textual features effectively. The classification phase involves eight machine learning algorithms, with a focus on maximizing detection accuracy through hyperparameter optimization.The model was evaluated using a dataset collected from Twitter, a popular social media platform known for its diverse and often volatile user-generated content. Our experiments demonstrate that the combination of AdaBoost, Support Vector Machines (SVM), and Multi-Layer Perceptron (MLP) classifiers with the TF-IDF embedding method achieved the highest average F1-scores, indicating superior performance in detecting offensive language.

KEYWORDS:

Offensive language detection, supervised learning, machine learning, text classification, social media, Twitter, TF-IDF, embeddings, AdaBoost, Support Vector Machines (SVM), Multi-Layer Perceptron (MLP), tokenization, preprocessing, hyperparameter optimization

VIRTUAL ASSISTANT MIMIC MODEL FOR CLOUD DATA SECURITY BASED ON BLOCKCHAIN

YOGESH.J

yogeshjanakiraman52@gmail.com

Vels Institute of Science Technology and Advanced Studies

ABSTRACT:

Cloud storage services have demonstrated significant power and popularity, providing fundamental support for the rapid development of cloud computing. However, due to management negligence and malicious attacks, numerous security incidents occur, leading to sensitive data leakage at the cloud storage layer. Once data is stored in the cloud, clients lose sovereignty over their data, making it vulnerable to security threats. To address this, a Virtual Assistant Mimic Model (VAMM) is proposed, combining cloud computing with blockchain to ensure data integrity through homomorphic encryption. A robust, tamperproof, and verifiable security architecture is established, where master hash values of databases are periodically computed and stored on a private blockchain. Clients can compare these hash values to detect tampering. This distributed verification system ensures confidentiality (using homomorphic encryption) and integrity. Data sharing is managed via smart contracts, with involved parties required to escrow to encourage honesty. The system guarantees confidentiality, integrity, privacy, non-repudiation, and anonymity.

KEYWORDS:

Cloud computing , Block chain, Data confidentiality , Virtual Assistant Mimic Model (VAMM), Non-Repudiation, Smart Contract

Personal Assistant Using NLP and Python

A.R.Madhesh

kailashrajc@gmail.com

SRMIST Ramapuram,

Abstract:

rapid advancement of Artificial Intelligence (AI) and Natural Language Processing (NLP), personal assistants have become an essential tool for enhancing human- computer interaction. This paper presents a Python-based personal assistant that leverages NLP techniques to facilitate seamless voice-based communication. The system utilizes speech recognition (speech_recognition), text-to-speech synthesis (pyttsx3), and command execution to understand and respond to user inputs effectively. It integrates various Python libraries, including pyautogui for automation, psutil for system monitoring, and web browser for internet navigation, enabling the assistant to perform diverse tasks such as opening applications, retrieving information, and managing system resources. The proposed system enhances user experience by enabling hands-free operation, making it a valuable tool for personal and professional applications. Experimental results demonstrate the efficiency and accuracy of the assistant in executing commands, highlighting the potential of NLP-driven personal assistants in improving productivity and human-computer interaction.

Keywords:

Personal Assistant, Voice-Based Interaction, Human Computer Interaction, Text-to-Speech, Command Execution, System Monitoring.

NCICT25**02271**

Money Mate Using AI

MAHA LAKSHMI

mahalakshmimoorthy04@gmail.com

Vels Institute of Science Technology and Advanced Studies

ABSTRACT:

Moneymate is a crucial aspect of financial well-being. With the increasing complexity of income sources and expenditures, individuals require intelligent solutions for budgeting, expense tracking, and financial planning. This paper presents an AI-powered personal financial tracker that leverages machine learning algorithms to analyze spending patterns, suggest optimized budgets, and predict future financial outcomes. The system employs natural language processing (NLP) for user interaction and deep learning models for financial forecasting. The proposed solution enhances financial literacy and decision-making through automation and personalized recommendations.

KEYWORDS:

AI, Personal Finance, Budgeting, Expense Tracking, Machine Learning, Financial Forecasting, NLP

NCICT25**02272**

Student Placement Assistance

Durgadevi

durgadevidurgadevi614@gmail.com

Vels Institute of Science Technology and Advanced Studies

ABSTRACT:

The Student Placement Assistance System is a web-based or mobile-based platform designed to facilitate the recruitment and placement process for students in educational institutions. It serves as a centralized hub that connects students, academic institutions, and potential employers, making the hiring process more efficient, transparent, and structured. Traditional placement processes often involve manual intervention, which leads to inefficiencies, miscommunication, and delays. Faster & More Efficient Placements – Reduces delays in recruitment and improves the hiring process. Increased Transparency – Real-time tracking of job applications and interviews. Better Job Matches – AI-powered recommendations ensure students get the most relevant job opportunities. Skill Enhancement Students can improve their employability with integrated training resources. Stronger Industry Collaboration – Encourages more companies to participate in campus placements. By integrating automation, AI-driven matching, and real-time tracking, this system streamlines the entire process, ensuring that students get placed in suitable job roles based on their skills, qualifications, and interests. The Student Placement Assistance System revolutionizes the traditional campus recruitment process by integrating automation, AI- driven recommendations, and real-time tracking. By enhancing student employability, providing recruiters with efficient hiring tools, and offering placement cells powerful analytics, this system creates a win-win situation for students, universities, and employers. The adoption of such technology ensures better job placements, reduced hiring time, and improved career opportunities for students.

KEYWORDS:

Student Placement Assistance, Employability Enhancement, Career Guidance, Campus Recruitment, Skill Development, Industry Collaboration.

NCICT2502273

Smart Grievance Management with RailMadad

Harika Balusu

harikabalusu00@gmail.com

Mohan Babu University

ABSTRACT:

The Rail Madad platform, aimed at streamlining passenger complaints, faces challenges in efficiently managing and resolving issues. To address this, our project proposes an innovative complaint management system integrating Natural Language Processing (NLP) and automated task allocation. Our system harnesses AI-powered technologies to automatically detect emergency cases, categorize and prioritize complaints, allocate department-specific tasks, and provide real-time progress updates to passengers. To (1) develop a robust NLP-based complaint categorization model, (2) design an automated task allocation framework, (3) improve complaint resolution speed and accuracy, and (4) enhance passenger satisfaction through transparent progress updates and timely resolutions. Index Terms: Automated complaint categorization, NLP- based emergency case detection, Predictive maintenance integration, Real-time passenger notifications, Task allocation frameworks.

KEYWORD:

Rail Madad Platform, Complaint Management System, Natural Language Processing (NLP), Automated Task Allocation

Rain Guard: An Intelligent Rain Detection and Wardrobe Protection System for Smart Homes

Aafreen Naskath.P.S,

961221104001@lites.edu.in

Loyola Institute of Technology and Science

ABSTRACT

In modern smart home environments, unpredictable weather conditions present significant challenges for outdoor wardrobes, drying clothes, and other exposed storage spaces. Rain Guard is an advanced, intelligent rain detection and wardrobe protection system designed to safeguard household items from unexpected rainfall. By integrating real-time rain sensors, weather forecasting APIs, and IoT-based automation, the system provides proactive protection against environmental damage.The core functionality of Rain Guard involves detecting precipitation through highly sensitive rain and humidity sensors, which trigger automated responses. When rain is detected, the system initiates protective actions such as closing outdoor wardrobes, retracting drying racks, or activating motorized covers. Additionally, homeowners receive real-time alerts and notifications through a dedicated mobile application, enabling remote monitoring and manual intervention if necessary. To ensure seamless operation and low power consumption, Rain Guard utilizes microcontrollers like Arduino or Raspberry Pi, along with wireless communication technologies such as Wi-Fi and Bluetooth. The system's cloud-based integration enhances efficiency by incorporating AI-driven weather prediction models, allowing it to anticipate rain and take preemptive actions. Furthermore, Rain Guard is compatible with popular smart home ecosystems, including Google Home and Amazon Alexa, enabling voice-activated controls for added convenience. By enhancing automation and providing real-time protection, Rain Guard contributes to a more intelligent, efficient, and weather-resilient smart home ecosystem. Its innovative approach not only improves household convenience but also extends the lifespan of outdoor belongings, making it an essential addition to modern smart homes.

Keywords:

KYC Verification, Byzantine Fault Tolerance (BFT) Algorithm,cryptographically.

NCICT250232

The Nexus of AI and Audiology: A Systematic Review on Real-Time Language Translation in AI-Powered Hearing Aid

Bharath Pandian P

bharathpandian157@gmail.com

AIISH

Abstract

The union of artificial intelligence (AI) in hearing aids has revolutionized assistive technology, particularly following the introduction of real-time language translation capabilities. This systematic review explores the status of AI-enhanced hearing aids with real-time language translation capacity, highlighting their technological basis, functional efficacy, and implications for individuals with auditory handicaps. In an intensive analysis of peer-reviewed articles, clinical trials, and technological developments, we evaluate the role of machine learning (ML), natural language processing (NLP), and neural networks in enabling accurate and instant translation of oral communication. The results highlight the transformative potential of such devices in creating accessibility of communication, breaking linguistic barriers, and improving the quality of life among users in multilingual populations. However, disadvantages such as delay, accuracy of translation in noisy acoustic environments, and user adjustment are rigorously evaluated. The review also identifies gaps in current research, notably the necessity for longitudinal studies involving users and an evaluation of the ethical implications relating to data secrecy and algorithmic bias. Synthesizing current evidence, the paper provides a strategic research and development agenda for future research, highlighting the transformational potential of AI-enabled hearing aids towards higher global inclusiveness and paradigm shifts in communication among hearing-impaired users.

Keywords—

Artificial Intelligence, Hearing Aids, Real- Time Language Translation, Machine Learning, Natural Language Processing, Assistive Technology, Auditory Impairment.

NCICT2502376

Driven predictions for crop yield and fertilizer optimization using Machine learning.

K.Bhoomika

konreddyboomika@gmail.com

Mohan Babu University

Abstract :

This project aims to develop an innovative solution for optimizing fertilizer usage in agriculture, thereby increasing crop yields while minimizing environmental impact. By integrating advanced technologies and sustainable practices, the project seeks to enhance the efficiency of nutrient delivery to crops, reduce waste, and promote eco-friendly farming. Traditional fertilizer application methods often lead to overuse, resulting in nutrient runoff, soil degradation, and negative environmental consequences. With the growing need for sustainable agricultural practices, there is a pressing demand for solutions that balance crop productivity with environmental stewardship. Algorithm Development:

Create predictive algorithms that analyze data to recommend precise fertilizer application rates and timings. These algorithms will use machine learning to adapt recommendations based on real-time data and historical trends. This project addresses the critical need for sustainable agricultural practices by providing a sophisticated tool for optimizing fertilizer usage. The outcome will support the agricultural sector in meeting global food demands while preserving natural resources and promoting environmental health.

Keywords –

Machine Learning, Random Forest, Decision tree, Fertilizer prediction,Crop recommendation.

NCICT2502377

Library Management System

Tsongthso Sangtam

tsongthso109@gmail.com

Dr.M.G.R. Educational and Research Institute

Abstract:

The Library Management System is developed to enhance the efficiency of library operations by digitizing book management and user interactions. The system is designed for two primary users: Admins and Students, each with distinct functionalities. The motivation behind this project is to simplify administrative tasks, improve accessibility, and provide a structured approach to library resource management. This research addresses the common challenges faced in traditional library systems, such as inefficient book tracking, manual record-keeping errors, and limited accessibility for students. By implementing a digital solution, the system ensures streamlined book issuance, return tracking, and user authentication. Our approach involves designing a web-based platform that enables admins to manage book categories, authors, and student records while allowing students to register, browse books, view issued books, and update their profiles. The system prioritizes security with password management and recovery features. The results demonstrate a significant improvement in operational efficiency, reducing manual workload while ensuring a user-friendly interface. The study concludes that the Library Management System offers an effective, scalable, and structured solution for modern library management, making it a valuable tool for educationalinstitutions.

Keywords:

Library Management System (LMS), Digital Library,Book Tracking

NCICT250243

Smart Navigation Solutions for Modern Railway Stations

v sakethreddy

sakethreddy409390@gmail.com

Mohan Babu University,

ABSTRACT

Railway station navigation is hard and challenging for any first-time traveler, a person with a disability, or at the peak hours of the day. In consideration of the above issues, we come up with a very innovative mobile application that relies on real-time GPS and augmented reality for better passenger navigation in railway stations. The web application provides a seamless user experience by overlaying visual markers on the phone's camera view to highlight key facilities such as restrooms, ticket counters, food court and platforms. It also offers voice-guided directions to assist users in finding their way. Moreover, the app provides real-time updates of train schedules and changes in platforms. Consequently, this ensures that the passengers receive relevant information as and when needed. This solution will help lessen the stress of trying to navigate complex station layouts, further reduce the risk of missing a train, and generally increase passenger satisfaction.

Keywords:

Augmented Reality (AR), GPS Navigation, Real-Time Updates, Voice Assistance, 3D Interaction Maps, Mobile Application, User Accessibility.

NCICT250246

WEB DEVELOPMENT

YAZH

yazhss89@gmail.com

Dr. Mgr educational and research institute

Abstract:

Web development is a dynamic and ever-evolving field that integrates technology, creativity, and user experience to build interactive digital solutions. This discipline encompasses front-end and back-end development, leveraging languages such as HTML, CSS, JavaScript, and server-side frameworks to create responsive and scalable web applications. With the rise of artificial intelligence, progressive web apps, and cloud computing, modern web development continues to push boundaries, enhancing accessibility, security, and performance. This paper explores emerging trends, development methodologies, and best practices that shape the future of web experiences, emphasizing the role of innovation in crafting seamless and engaging user interactions. Web development is a dynamic field that blends creativity with technical expertise to build interactive and user-friendly digital experiences. This discipline encompasses front-end and back-end development, leveraging technologies like HTML, CSS, JavaScript, and server-side frameworks. With the rise of AI, responsive design, and cloud computing, web development is evolving toward intelligent, scalable, and adaptive solutions. Security, accessibility, and performance optimization are now essential considerations in crafting modern websites. This paper explores the latest trends, tools, and methodologies shaping the future of web development, highlighting the impact of emerging technologies on user engagement and business innovation.

KEYWORD

Web development, Front-end development, Back-end development

NCICT2502480

Real-Time Disaster Information Aggregation Software

GONIPETA SURYANARAYANA REDDY VAMSHI REDDY

bunny94418@gmail.com

Mohan Babu University,

ABSTRACT

For reduction of lives and losses, disaster management mandates quick response rates and right information gathering. For giving real-time and effective disaster updates, this study envisions a revolutionary real-time disaster information aggregation software leveraging cloud computing, IoT, and AI analytics. For increasing situational awareness, the system fuses information from various sources including sensor networks, social media feeds, and satellite imaging. As a result of the scalability of the software architecture, reliability is guaranteed even in instances of disaster incidents with high traffic. This paper outlines the system's design, components, and performance assessment.

KEYWORD

Disaster management, Quick response, Real-time updates

NCICT2502481

Machine Approach To Forecast Time Series Data

Godavarthi Bhanu Teja

bhargava7771@gmail.com

Sathyabama Institute of Science &

ABSTRACT

Abstract—The forecasted future data is an essential half of time series forecasting used in various fields including finance, healthcare, energy management thus enabling high-quality data-driven predictive decision making. Advanced machine learning techniques should be used over traditional forecasting methods because of difficulties associated with large-scale complex nonstationary data sets. The analysis presents a complete machine learning method for time series forecasting that combines element extraction with data processing methods and combined forecasting models. The proposed approach benefits from extreme learning methods and ensemble modeling and self-organizing maps which demonstrate better accuracy while offering adaptability and robust functionality. The framework undergoes extensive dataset evaluations which reveal its capability for dealing with complex data patterns in high dimensions and noise as well as irregularities.

Keywords

Time Series Forecasting, Machine Learning, Feature Engineering, Hybrid Models, Ensemble Methods.

AUTOMATIC SMART APPLICATION USING IOT BASED ON FACIAL EXPRESSION

K Janasaran

kjanasaran5@gmail.com

Sathyabama Institute of Science and Technology, Chennai, India

Abstract

The rapid advancements in Internet of Things (IoT) technology have enabled the development of intelligent systems that enhance user interaction and engagement. This project focuses on creating an Automatic Smart Application that utilizes IoT and facial expression recognition to deliver adaptive responses. By leveraging real-time facial analysis through advanced image processing and machine learning, the system identifies emotional states such as happiness, sadness, and anger, triggering actions like adjusting lighting, music, or temperature for a personalized experience. The integration of IoT devices ensures seamless connectivity and communication across smart environments. Cloud computing enhances scalability and facilitates data analysis, improving accuracy over time. Key challenges, such as data privacy and emotion detection reliability, are addressed with robust security protocols and continuous algorithm refinement. This innovative approach demonstrates IoT's potential to create empathetic, responsive ecosystems across homes, workplaces, and healthcare domains, enhancing user satisfaction and emotional well-being.

Keywords

Internet of Things, Facial Expression Recognition, Emotion Analysis, Smart Applications, Adaptive Environments, Machine Learning, Cloud computing.

NCICT250253

FAKE IMAGE DETECTION USING DEEP LEARNING

Ms.M.Sushmalatha Reddy,

sushmalathareddy699@gmail.com

MOHAN BABU UNIVERSITY TIRUPATHI

Abstract:

Increasingly convincing deep fake images have already generated urgent discussions about media credibility, belief in the populace and cybersecurity. In this work we presented a powerful and efficient deep fake image detection framework inspired by the latest EfficientNetV2 architecture. EfficientNetV2 is selected in the proposed model due to its optimized feature extraction performance, rapid computation time, and its capability for effectively capturing subtle artifacts and differences across facial features, textures, and lighting context that typically results from the deep image generation process. Based on extensive testing, we were determined Accuracy, Precision, and Recall for the trained geometric model used for training & validation which covers the actual and altered induced image datasets which give us the confidence to deploy it in any precincts. Through effective preprocessing and an innovative architecture, the framework outperforms the naive baseline approaches. This strategy works effectively in increasing detection precision and makes it possible for its scale to be applied in real-time. This helps mitigate some of the ethical implications we face in the intersection between both ends of AI Frankenstein Ian phenomena from a digital forensics view used by ethical and security minded stakeholders.

Keywords:

Deep fake detection, EfficientNetV2, artificial intelligence, digital forensics, image manipulation, cybersecurity, media authenticity, machine learning, ethical AI, real-time detection.

NCICT2502584

DEVELOP EFFEECTIVE CAREER COUNSELING AND GUIDANCE PROGRAMS IN SCHOOLS TO ENHANCE STUDENT CAREER CHOICES

ALAVALA.JAYAGOPINADH

gopinadhalavala@gmail.com

Mohan Babu University

Abstract:

Career counselling in schools is an essential service that plays a critical role in guiding students through their academic and professional paths. With the dynamic nature of the global workforce, students need comprehensive guidance to make informed career choices. This paper explores the effectiveness of school- based career counselling programs and examines strategies for improving their structure. The research highlights how well-executed career counselling programs can foster better decision-making, career readiness, and overall personal development. The study presents data from recent surveys and interviews with educators, career counsellors, and students to show the tangible benefits of career guidance services. The findings suggest that a holistic approach to career counselling, involving not only career advice but also emotional support and skills development, can significantly enhance students' career prospects.

Keywords:

Career Counseling, Career Guidance, Career Readiness, School Programs, Career Decision Making, Student Development, Educational Support, Career Pathways, Life Skills, Job Market Trends.

NCICT2502585

ARACHIS HYPOGAEA DISEASE PREDICTION SYSTEM

PULAKUNTA JYOTHSNA

jyothsnapulakunta@gmail.com

MOHAN BABU UNIVERSITY

Abstract:

Groundnut (Arachis hypogaea) is one of the most important and widely consumed oilseed foods in agriculture. The oil from the groundnut is used widely for cooking and weight loss, and its fats are used widely for soap production. Many diseases, including those caused by bacteria, viruses, and fungus, affect groundnut farming. As a result, these diseases significantly lower the output of the groundnut plant by attacking its leaves, roots, and stem. A number of diseases can significantly lower the output and quality of groundnuts, an important oilseed crop. The disease may have already caused irreparable damage by the time symptoms are visible to the naked eye.In addition, environmental degradation and loss of revenue of the farmer are associated with overuse of chemical treatment as a result of late detection or incorrect diagnosis. Management in early disease detection is sustainable agriculture. This paper offers a disease prediction system for Groundnut, Arachis Hypogaea, that uses machine learning methods and image processing to predict and deal with diseases in groundnuts.

Keywords:

Groundnut(Arachis Hypogaea),Machine learning,Image processing,Early diagnosis.

NCICT2502586

The Future of ComputationThe potential of quantum computing to revolutionize AIalgorithms.

Sai Laxma Reddy

sairamini765@gmail.com

Dr. M.G.R. Educational and Research Institute

Abstract:

Quantum computing represents a paradigm shift in computational power, leveraging the principles of quantum mechanics to solve problems that are intractable for classical computers. This talk explores the intersection of quantum computing and artificial intelligence (AI), focusing on how quantum algorithms can revolutionize AI by exponentially speeding up computations, optimizing complex systems, and enhancing machine learning models. Quantum computing's ability to process vast amounts of data simultaneously through superposition and entanglement offers unprecedented opportunities for AI applications, such as faster training of neural networks, improved optimization in reinforcement learning, and breakthroughs in natural language processing. However, challenges such as quantum decoherence, error correction, and hardware limitations must be addressed to fully realize this potential. This discussion will provide insights into the current state of quantum AI, its future prospects, and the transformative impact it could have on industries ranging from healthcare to finance.

Keywords:

Quantum Computing, Artificial Intelligence (AI), Quantum Algorithms, Machine Learning, Quantum Supremacy, Quantum Neural Networks, Optimization, Quantum Entanglement, Superposition, Quantum Error Correction, Reinforcement Learning, Natural Language Processing (NLP), Quantum Hardware, Computational Speedup, Future of AI

NCICT250258

StockGenie: Smart Automation for Seamless Inventory Management

Muthuram B

pearlram181@gmail.com

Loyola Institute of Technology and Science.

Abstract:

Effective stock management is crucial for warehouse operations, especially in environments where real-time inventory tracking is necessary. This project proposes an AI-based Stock Maintenance System using a Load Cell, integrated with Arduino and IoT technologies to ensure accurate inventory control. The system leverages a Load Cell sensor to measure the weight of stored goods, providing real-time data to track stock levels. Using AI algorithms, the system predicts inventory trends, identifies potential shortages, and automates stock alerts to maintain optimal inventory levels. The Load Cell sensor accurately detects weight changes, ensuring precise stock calculations. An Arduino microcontroller processes the data, transmitting it to a cloud-based platform via IoT connectivity. The AI model analyzes historical data to forecast stock demand patterns, enhancing decision-making processes. During festival seasons or high-demand periods, the system predicts increased purchase trends and alerts the manufacturing team to prepare adequate stock levels. This proactive feature ensures efficient inventory restocking, reducing the risk of product unavailability. Additionally, the system can trigger alerts through SMS, Email, or App notifications when stock levels drop below the threshold. This AI-based system minimizes manual errors, improves warehouse efficiency, and ensures timely restocking, making it ideal for retail stores, warehouses, and manufacturing units. The integration of AI enables predictive analysis, reducing wastage and optimizing inventory management.

KEYWORD

AI, IOT, ML

Neuro-Symbolic Graph Attention Model for Enhanced Fake News Detection: Integrating Reasoning and Propagation Analysis

RAVADA HEMASUNDARA RA

hemanth4993@gmail.com

MOHAN BABU UNIVERSITY TIRUPATHI

ABSTRACT

With the rapid expansion of digital media, fake news detection has become an essential challenge in preserving information integrity. Traditional artificial intelligence (AI) techniques, such as deep Learning,natural language processing (NLP), and ensemble learning, have demonstrated significant success in identifying misinformation. However, these methods often struggle with evolving linguistic patterns, multimodal content, and adversarial misinformation tactics. This paper introduces a novel Neuro- Symbolic Graph Attention Model (NSGAM), which combines symbolic reasoning with graph-based neural networks to enhance the interpretability and adaptability of fake news detection. NSGAM integrates knowledge graphs with attention-based transformers todynamically assess the credibility of news by analysing textual, contextual, and social propagation patterns. The model leverages adaptive reasoning layers to detect subtle semantic inconsistencies while utilizing network-aware attention mechanisms to track misinformation diffusion across platforms. Experimental results demonstrate that NSGAM achieves superior accuracy compared to conventional machine learning approaches while improving explainability, making it a promising advancement in the fight against digital misinformation.

Keywords:

Fake news detection, Neuro-Symbolic AI, Graph Attention Networks, Knowledge Graphs, Symbolic Reasoning, Misinformation Propagation, Explainable AI, Social Network Analysis, Deep Learning, Natural Language Processing.

NCICT2502689

Deep Learning: Techniques, Applications, Challenges, and Future Direction

YUGESH

yugeshudhayakumar@gmail.com

Abstract:

Deep learning, a subset of machine learning, is a rapidly evolving branch of artificial intelligence (AI) that leverages artificial neural networks to model complex patterns and extract meaningful representations from vast datasets. Inspired by the human brain, deep learning techniques have enabled groundbreaking advancements in various domains, including image and speech recognition, natural language processing, and autonomous systems. Unlike traditional machine learning approaches, deep learning models automatically learn hierarchical features, reducing the need for manual feature engineering. The success of deep learning is driven by improvements in computational power, the availability of large-scale labeled datasets, and the development of sophisticated architectures such as Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), and Transformers. These innovations have revolutionized industries like healthcare, finance, and automotive by delivering state-of-the-art solutions to complex problems.

Keywords:

Deep Learning, Neural Networks, Machine Learning, Artificial Intelligence, CNNs, RNNs, Transformers, Computational Power, Image Recognition, Speech Recognition, Natural Language Processing, Large Datasets, Model Interpretability, Optimization, Transfer Learning, AI Applications, Supervised Learning, Unsupervised Learning, Reinforcement Learning, Deep Neural Networks, Big Data.

NCICT250264

Predictive Analysis for Lung Disease Using Machine Learning

T Sivakrishna

thupakulasivakrishna115@gmail.com

Mohan Babu University,

ABSTRACT

This Pneumonia lung cancer detection addresses critical needs in early and accurate pneumoniclung cancer detection through the integration of machine learning into a Django-based webapplication, which works in real time predictions. Users can upload medical images and the system classifies them into binary categories, namely pneumonia or healthy lungs, based on advanced deep learningtechniques. The solution uses a VGG16 backbone with the pre-trained weights of ImageNetas a feature extractor and will fine-tune for domain-specific tasks. Data augmentation strategies include horizontal flips, zooming, and shearing transformations to boost the robustness of training. The model uses the Adam optimizer and categorical cross-entropy loss to simplify model training and thereby ease of use, rapid prototyping. Dense connectivity has also been incorporated using DenseNet-121 for the enhanced extraction of features, thus enabling the detection of complex patterns for higher precision in diagnosis. It also reduces computational overhead by considering only binary classification rather than multi class. The proposed system has shown the ability of transfer learning over custom architectures to be scalable, efficient, and effective for early diagnosis of lung diseases.

Keywords

Lung cancer detection, Django web application, VGG16, DenseNet-121, transfer learning, data augmentation, pneumonia classification, Adam optimizer, medical imaging.

NCICT250269

Hotel Booking System With Room Availablity

Kishore Raj

kishorer.raj.venkatesan@gmail.com

SRM Institute of Science and Technology, Chennai (Ramapuram)

Abstract

A hotel booking system is a software application that enables customers to reserve rooms online while allowing hotel managers to manage bookings and room availability efficiently. This system enhances user experience, streamlines operations, and minimizes errors associated with manual bookings. The study presents the development and implementation of a hotel booking system, discussing its key features, advantages, and potential improvements. The hospitality industry has seen a significant shift toward digitization, making automated hotel management systems an essential component for business sustainability. This paper explores the impact of digitalization on hotel booking, its technological framework, and how businesses can leverage these advancements to optimize performance.

KEYWORD

Online Room Reservation, Automated Hotel Management, Digital Transformation in Hospitality

NCICT250270

Efficient enumeration of URL's active hidden servers over anonymous channel (TOR)

Prakruthi k

prakruthineet@gmail.com

ABSTRACT:

Efficiently enumerating URLs of active hidden servers involves identifying and cataloging web addresses of sites hosted on the dark web and other anonymous networks. The dark web, a concealed portion of the internet, is only accessible through specialized tools such as Tor (The Onion Router), which anonymizes user activity and obfuscates server locations. Due to its inherent privacy and encryption mechanisms, the dark web hosts a variety of content, including legitimate services like privacy-focused forums and whistleblower platforms, aswell as illicit marketplaces and cybercriminal activities. Enumerating hidden servers is a critical task for cybersecurity researchers, law enforcement, and digital forensics experts seeking to monitor, analyze, and track activities on these anonymous networks. However, identifying and indexing active hidden servers is challenging due to frequent domain changes, dynamic hosting environments, and resistance mechanisms such as CAPTCHAs and bot detection techniques. Our proposed approach introduces a novel framework model that enhances the discovery and cataloging of hidden servers by leveraging advanced web crawling, DNS enumeration, and subdomain enumeration techniques. Traditional web crawlers struggle to operate effectively on the dark web due to its decentralized nature and lack of a conventional indexing system. To address this, we incorporate intelligent crawling strategies that focus on hidden service directories, link-following mechanisms, and keyword-based exploration to maximize the retrieval of active URLs. Additionally, DNS enumeration techniques are employed to extract valuable insights from domain name structures and detect onion services that may not be widely known or indexed. Subdomain enumeration further enhances this process by identifying associated domains and alternative entry points, allowing for a more comprehensive mapping of hidden services. By integrating these methodologies, our framework significantly improves the efficiency of discovering and tracking active hidden servers, reducing false positives and enhancing detection accuracy. This system is designed to adapt to the evolving nature of anonymous networks by incorporating machine learning-based classification models, which filter and prioritize discovered URLs based on relevance and activity levels. Future enhancements will explore the use of graph-based link analysis, AI-driven behavioral profiling, and automated fingerprinting of dark web services to further refine the enumeration process. This research contributes to cybersecurity efforts, threat intelligence, and forensic investigations, enabling better oversight of dark web activities while maintaining ethical and legal considerations in hidden server analysis.

KEYWORD

Dark web enumeration, Hidden server discovery

NCICT2502793

Federated Learning for Privacy- Preserving AI SARAVANAN M

m.saro.13.2005@gmail.com

Dr. M.G.R. Educational and Research Institute

ABSTRACT:

Federated Learning (FL) is a decentralized machine learning paradigm that addresses privacy concerns associated with centralized data collection. FL enables collaborative model training across distributed data sources, such as personal devices or organizational silos, without requiring the transfer of sensitive data to a central server. By ensuring that raw data remains localized, FL minimizes risks related to data breaches and unauthorized access, fostering trust in AI systems. Key privacy-preserving techniques integrated into FL include differential privacy, which adds controlled noise to computations to prevent re-identification of individuals, and encryption methods like homomorphic encryption and secure multi- party computation, which ensure secure communication during model aggregation. These techniques collectively enhance the security of FL processes while maintaining high utility in trained models. FL has demonstrated significant potential across industries such as healthcare, finance, and IoT applications. For instance, it enables personalized healthcare solutions without compromising patient privacy and facilitates fraud detection in financial institutions without sharing sensitive transaction data. Additionally, FL is utilized in mobile

applications like Google's Gboard and Apple's speech recognition systems. Despite its advantages, FL faces challenges such as communication overhead, data heterogeneity, and vulnerability to privacy attacks like model inversion or membership inference. Addressing these challenges through hybrid approaches—combining FL with differential privacy or advanced encryption—can further strengthen its privacy-preserving capabilities.

Keywords:

Federated Learning, Privacy-Preserving AI, Differential Privacy, Encryption Techniques, Decentralized Data Processing, Data Security

NCICT250274

Privacy Preserving Reinforcement Learning for Sensitive Image Data in E-Commerce

Nikhil Samuel Joseph J

nsjniksam@hotmail.com

Sathyabama Institute of Science and Technology

Abstract

In the rapidly evolving e-commerce sector, optimizing decision-making processes such as personalized recommendations and dynamic pricing is crucial while safeguarding sensitive customer data remains a significant challenge. This project addresses the dual challenge of enhancing e- commerce operations and protecting privacy by integrating Reinforcement Learning (RL) techniques with advanced privacy-preserving methods. Specifically, we employ Q-learning, to learn optimal actions through environmental interactions, aiming to maximize rewards and PPO (Proximal Policy Optimization), which collects data in batches and trains the policy to maximize expected returns while adhering to proximal constraints. To address privacy concerns, we incorporate Homomorphic Encryption guarantee that sensitive data remains protected in the learning process all around. The proposed solution effectively balances high model accuracy with robust privacy safeguards, providing a secure and efficient framework for deploying RL in e-commerce applications. Finally, the best model is taken and applied to the web application model to show the capability of privacy-preserving model.

Keywords

Decision-making, adhering, privacy-preserving, homomorphic encryption, reinforcement learning

Enhanced Real-Time Women Safety App: Alert Notification and Emergency Response System with Live Location, Video, and Audio Streaming

Manaswini Seshagiri

seshagirimanaswini@gmail.com

Sathyabama Institute Of Science And Technology

Abstract:

The "Enhanced Real-Time Women Safety App" help to tackle emerging issues such as women safety in the society through the use of real time mobile technologies. In addition, some aspects embodied in this application include real-time location updates, video and audio broadcasting, and immediate alerting of selected emergency contacts and law enforcement agencies. The app also provides timeous response through offering situation awareness through feeds, so that the responders can observe and respond efficiently to any instance. Ensuring the use of the security protocols to enhance user's security and privacy the system incorporates the aspect. However, features such as shake detection for SOS turn on, setting independent alert and multiple languages make it easy to be used by different people. This solution fills the void in the current safety systems because the SafetyNet system is proactive, efficient, and holistic approach in providing personal safety, especially in cases of emergency.

Keywords:

Women safety, real-time tracking, live video streaming, emergency response, mobile application, secure communication, proactive security.

NCICT2502896

Deep Learning - Driven Cancer Diagnosis Using ResNeXt Model Tharani.V

tharaniveera5@gmail.com

Dr.M.G.R. Educational and Research Institute, Chennai

ABSTRACT:

Breast cancer is the second most common cause of cancer-associated mortality among women globally. Undoubtedly, accurate detection and treatment intervention are central to improving the survival outcome. Deep learning technologies and image processing data analysis techniques are being explored for accurate detection of breast cancer tumors. This project aims to improve survival outcomes by enhancing the performance of machine learning models. A comprehensive dataset of mammogram images was used, which underwent preprocessing and enhancement steps to reduce imagenoise, enhance contrast, and normalize the images. These feature were then used to train advanced machine learning, deep learning, ResNext, support vector machines (SVM), convolutional neural networks (CNNs), and other ensemble methods. The ultimate goal is to develop a robust diagnostic tool that aids radiologists in making informed decisions regarding breast cancer diagnosis, enhancing thediagnostic workflow, reducing the burden of misdiagnosis, andcontributing to better patient outcomes in breast cancer management.

KEYWORDS

Breast Cancer, Res NeXt model ,Mammogram Image ,Deep Learning, Diagnostic tool

NCICT2502897

AI ENHANCED SKINCARE-WEARABLE DEVICE

DHIVYASRI S

dhivyasrisundaram.s@gmail.com

DHANALAKSHMI SRINIVASAN COLLEGE OF ENGINEERING AND TECHNOLOGY

ABSTRACT:

In recent years, advancements in wearable technology and artificial intelligence (AI) have revolutionized personal healthcare monitoring. This project proposes the development of an AI-powered smart ring or watch that analyzes skin health using embedded sensors and provides personalized skincare recommendations. The device will utilize biosensors to measure key skin parameters such as hydration levels, oiliness, pH balance, sweat composition, and UV exposure. By leveraging machine learning algorithms, the wearable will process real-time data to determine the user's skin type, detect potential issues (e.g., dryness, acne, sensitivity), and suggest suitable skincare products or routines. This innovation aims to provide continuous, non-invasive skin monitoring, unlike existing smartphone-based skin analysis apps that rely on camera scanning. The device will integrate with a mobile application to display skin health insights, track trends over time, and offer AI-driven product recommendations tailored to the user's skin needs. The project will address key challenges such as sensor miniaturization, real-time data processing, and accuracy in skin analysis. Potential applications include dermatology, personalized beauty care, and preventive skincare management. The ultimate goal is to develop an intelligent and user-friendly skincare wearable that enhances personal skincare routines with scientific precision and AI-driven recommendations.

KEYWORD

Wearable Skin Health Devices, AI in Skincare Technology, Personalized Skincare Recommendations

NCICT2502998

Conversational Image Recognition Chatbot:A Multimodal Framework for Intelligent Visual Dialogue

B Tharun

tharunbobba335@gmail.com

ABSTRACT:

This paper presents a multimodal framework for a Conversational Image Recognition Chatbot that integrates natural language processing (NLP) and image recognition to enable interactivedialogue about visual content. The system processe user queries related to uploaded images, recognizes objects or scenes within the images, and provides contextual responses. The proposed chatbot leverages state-of-the-art deep learning models for both NLP (e.g., GPT-4) and computer vision (e.g., Vision Transformers), achieving high accuracy and usability. Applications span e-commerce, education, and healthcare. Evaluation results demonstrate the system's effectiveness in understanding and responding to complex queries with a mean response accuracy of 92%.

Keywords:

Conversational AI, Image Recognition, Multimodal Systems, Deep Learning, Natural Language Processing, Vision Transformers, Intelligent Chatbot

NCICT2502999

AI-Powered Intrusion Detection System (IDS) for Cyber Threat Analysis

Shreenath G

dg4517@srmist.edu.in

SRM Institute of Science and Technology, RMP

ABSTRACT:

In this paper, we introduce an AI-Powered Intrusion Detection System (IDS) combining Kafka for real-time processing of network traffic, Suricata for anomaly and signature detection, and a pre-trained AI/ML model for anomaly classification. Our system improves network security by providing real-time detection and classification of cyber threats, encryption of anomaly reports with advanced symmetric encryption algorithms (e.g., AES), and safe storage in a centralized database. The designed system only identifies anomalies without automatic blocking or mitigation of threats, giving security teams a window to manually analyze and respond. Kafka processes network traffic logs gathered by Suricata effectively, which are then processed by a pre-trained AI/ML model to classify traffic as normal or anomalous. Identified anomalies are encrypted and stored securely to maintain data integrity and confidentiality. The result provides high accuracy in threat detection, effective encryption of reports, and smooth storage. With real-time monitoring, detection of anomalies, and secure handling of reports, this system offers a scalable and resilient solution to improve current cybersecurity frameworks

KEYWORDS

Cybersecurity, Anomaly Detection, Kafka, Suricata, AI Security Analysis, Automated Reporting

NCICT25029100

Bridging Security and Accessibility: A Tor-Based Framework for Anonymous File Sharing

Harish Vijayakumar

hv4499@srmist.edu.in

SRM Institute of Science and technology

ABSTRACT:

Traditional file-sharing systems often sacrifice security for accessibility, leaving users vulnerable to surveillance, metadata leaks, and censorship. Existing decentralized solutions, such as Freenet or Tor-integrated platforms, struggle with usability, latency, or insufficient access controls, limiting their practical adoption. This paper proposes a Tor-based framework that bridges security and accessibility by leveraging Tor's onion routing and hidden services to anonymize user-server interactions while maintaining ease of use. The framework employs client-side encryption and metadata obfuscation to protect file confidentiality and resist inference attacks, coupled with secure authentication and role-based access controls to enforce granular permissions. Dynamic network pathways and redundant hidden services mitigate traffic correlation risks, ensuring robust anonymity even under adversarial scrutiny. Rigorous security testing confirms resilience against common threats, including sybil and replay attacks, while performance benchmarks reveal latency and throughput comparable to mainstream anonymity tools, balancing efficiency with privacy. User studies demonstrate high usability, with intuitive interfaces enabling seamless file operations for non technical users. Though dependent on Tor's inherent trade-offs—such as latency from multi-hop routing—the framework addresses scalability and key management challenges through modular design and adaptive resource allocation. By harmonizing Tor's anonymity guarantees with structured access governance, this solution offers a practical alternative for high-risk scenarios like whistleblowing, secure collaboration, and censorship circumvention, advancing privacy-preserving file sharing without compromising accessibility.

Keywords

tor-based framework, file sharing, Security, Accessibility, Encryption, Role-based access controls, onion routing, hidden services, anonymity, metadata obfuscation.

NCICT25029101

Ai powered Maize Crop Disease Prediction

Mekapati Satwikareddy

satwikareddymekapati@gmail.com

Mohan Babu University, Tirupati, AP

ABSTRACT:

The rapid advancement of deep learning techniques, particularly convolutional Neural Networks (CNN) and Mobile Net, has significantly enhanced the precision and efficiency of agricultural practices. This research presents a deep learning-based approach for the classification and prediction of diseases in maize crops, utilizing CNNs and MobileNet to analyze leaf images for disease detection. The proposed model leverages a large dataset of maize leaf images, enabling it to accurately identify and classify various maize diseases, such as rust, blight, and smut. By processing these images, the system can detect diseases at early stages, providing farmers with a tool to implement timely interventions. MobileNet's lightweight architecture ensures that the model can run efficiently even on mobile devices, making it accessible for farmers with limited resources. Early disease detection plays a crucial role in preventing crop loss, reducing the need for harmful pesticides, and optimizing resource allocation. Furthermore, this approach offers a reliable and scalable solution for precision agriculture, allowing for the monitoring of large-scale crops with minimal manual effort.The integration of CNN and MobileNet in this domain also highlights the potential for deep learning to drive sustainable agriculture by improving crop yield, minimizing economic losses, and promoting environmentally friendly farming practices. This research not only contributes to the field of agricultural technology but also emphasizes the transformative role of artificial intelligence in shaping the future of farming.

Keywords:

Maize disease dataset, CNN algorithms, MobileNet, early disease detection, precision agriculture, sustainable farming, crop yield enhancement, deep learning.

NCICT250301

FORECASTING FUTURE WATER REQUIREMENTS AND ASSESSING STORAGE CAPACIES IN RESERVOIRS

BALU PRAKASH MANCHIRAJU

balusrisivaprakash@gmail.com

Mohan Babu University

Abstract:

Effective water resource management is critical to sustaining agricultural productivity, meeting community needs, and addressing environmental challenges, particularly in regions reliant on reservoir systems. Existing reservoir management systems often fall short due to limited predictive capabilities, inefficiencies in data utilization, and inflexibility in accommodating climatic variability. This study proposes a machine learning (ML)-based forecasting model designed to predict future water requirements with high accuracy and assess optimal storage capacities for reservoirs. The proposed system leverages advanced ML algorithms, specifically arima and long short-term memory (LSTM) networks, which are well-suited for handling time series data and complex nonlinear relationships.

These algorithms utilize key datasets, including reservoir storage levels, rainfall data, and irrigation water usage, to predict future water demands accurately and recommend storage adjustments. By integrating rainfall forecasts, historical reservoir levels, and irrigation demand trends, the proposed model provides more reliable predictions and actionable insights. The anticipated benefits include improved reservoir management efficiency, optimized water allocation, and proactive planning for drought and water scarcity conditions. The application of this ML model will ultimately contribute to a more sustainable and resilient water management framework. To provide an accessible and user-friendly interface for stakeholders, the system will be complemented by a UI built using Next js, Tailwind CSS, and Node.js , python. This interface will enable users to visualize and interact with water resource data and predictions . MySQL will be used for data storage and management, ensuring efficient retrieval and processing of the datasets required for the forecasting model.

KEYWORD

Water resource management.Reservoir systems,Machine learning algorithms,ARIMA,Long short-term memory (LSTM) networks,Time series forecasting,Rainfall data,Irrigation water usage

NCICT250302

Towards Sustainable Groundwater Management Predictive Model with LSTM Network

Manoj Kumar

cmanoj9177@gmail.com

Mohan Babu University, Tirupati, AP

Abstract:

This venture gives Due to misuse and weather change, groundwater is turning into less to be had for makes use of like consuming and farming. Due to their constrained facts and fundamental fashions, conventional strategies of monitoring and predicting groundwater stages are not very effective. In order to extra precisely forecast groundwater tiers, this study shows growing a software program that makes use of contemporary system mastering. The program will encompass records from land use traits, climate records, and historic statistics. It requires amassing and purifying facts from environmental agencies, government databases, climate stations, and sensors. Determining the important thing elements influencing groundwater levels. Locating styles within the statistics with the aid of making use of deep learning techniques, together with LSTM networks. Using metrics like RMSE and MAE to assess the version's accuracy. The software will assist improve water useful resource control through presenting correct groundwater stage estimates. It will help prevent misuse and ensure sustainable groundwater management by way of making use of real-time statistics and superior models, improving protection towards human impact and weather trade.

Keywords:

weather alternate, LSTM, water control, machine studying, groundwater, and prediction, RSME, MSE, sustainable.

NCICT250303

Waste Management: From Smart Bins to Sustainable Solutionists

D. Sasikumar sasikumarsasi9949@gmail.com

Mohan Babu University

Abstract:

Advancing Solid Waste Management: From Smart Bins to Sustainable Solutions is the systematic process of collecting, transporting, processing, anddisposing of solid waste in a manner that minimizes environmental impact and maximizes resource recovery. This involves a range of activities from the collection to transport, processing, recycling and disposal of waste materials. It includes a number of activities such as waste collection, segregation, image processing, treatment, recycling, and disposal. Proper Management of Solid Waste is also important for the protection of human health as well as the proper use of natural resources and for ensuring environmental protection from pollution. The introduction of legislation and initiatives aimed at reducing waste, recycling and safe disposal practices. Waste management helps to reduce environmental degradation. Previously, in this solid waste management, they use smart bin algorithm for integration of IOT.

KEYWORD:

Solid waste management,Environmental protection,Resource recovery,Waste collection and segregation,Recycling and disposal,Image processing in waste management,Waste treatment technologies,Sustainable solutions,Smart bin technology

NCICT250304

ONLINE CHATBOT BASED TICKET MANAGEMENT SYSTEM ON MUSEUM

Siddareddy Chaitanya Rami Reddy

siddareddychaitanyaramireddy@gmail.com

Mohan Babu University, Tirupati

ABSTRACT:

This paper presents an intelligent and automated museum ticket booking system that leverages AI- driven chatbot technology to enhance visitor experience and streamline operations. The system integrates a multilingual chatbot powered by the Gemini API to assist users in booking tickets, handling inquiries, and providing seamless support. Users can register, log in, select ticket preferences, make secure payments, and access booking details, ensuring a frictionless

experience. Additionally, an admin module enables efficient management of users and bookings. By incorporating real-time analytics, automated ticket issuance, and error-free processing, this solution minimizes manual intervention, reduces wait times, and optimizes resource allocation. The integration of a payment gateway further ensures a fully autonomous and secure transaction process. This innovative approach enhances accessibility, improves customer service, and supports data-driven decision-making, redefining the efficiency of museum ticketing systems while offering a scalable and cost-effective solution for cultural institutions

Keywords:

Museum ticket booking, AI chatbot, Gemini API, automated ticketing,multilingual support, payment gateway integration, user experience, real-time analytics, error-free processing, data-driven decision-making, museum operations optimization.

NCICT250306

Price prediction of Agri-horticultural commodities using machine learning techniques.

Banyala Manjunath

manjusonofsivaya@gmail.com

Mohan Babu University, Tirupati

ABSTRACT

For farmers, traders, and policymakers to make well-informed decisions about production, storage,and marketing, accurate price predictions for Agri-horticultural commodities arecrucial. The intricate and dynamic character of agricultural markets, which are impacted by avariety of variables like weather, supply-demand swings, and market trends, is frequently overlooked by traditional forecasting techniques. In this study, we suggest a machine learning-based method that uses past market data and external variables like rainfall, temperature, and agricultural seasons to forecast theprices of Agri-horticultural commodities like mango, onion, potato, tomato, wheat, banana, carrot, and groundnut. Since it can handle high-dimensional data and non-linear correlations with ease, the Random Forest Regressor is used as the main predictive model. Real-world statistics from agricultural markets in Andhra Pradesh, India, are used to train and assess the model. Our technique performs better in terms of prediction accuracy when compared to other machine learning algorithms and traditional statistical models. Farmers may make better decisions about crop selection, harvesting schedules, and market entry according to the research's insightful findings on agricultural price predictions. This strategy can also help government organizations minimize financial risks in the agriculture industry and achieve price stabilization regulations.

Keywords:

Price Prediction, Machine Learning, Agri-Horticultural Commodities, Random Forest Regressor, Market Forecasting, Andhra Pradesh.

NCICT250307

MUNICIPAL CORPORATION COMPLAINT MANAGEMENT SYSTEM

Kamatham Umamaheswari

kumamaheswari243@gmail.com

Mohan Babu University

ABSTRACT:

This is a Web-based application concentrates on accepting the problems from the citizens, distributing to the relevant official and giving notifications to the officials and supporting the citizens in solving their problems with the day to day tasks of the corporation. The system provides real-time updates on the status of complaints and allows citizens to track the progress of their complaints. The complaint submission is through an online portal where citizens submit their complaints and send it to the respective department. This will further enhance the quality of municipal services and satisfaction from the citizen side, by improving the quality of services offered, which are being made transparent by this system. The system provides transparency and accountability by enabling the citizen to follow up on their submissions, which creates a conducive environment between the public and local government. Besides, the application provides citizens with resources and advice on how to interact with the corporation, leading to a responsive and engaged community.

Keywords:

Transparency, Accountability, Real-time updates

NCICT250308

Machine Learning Approaches to Crop Yield Optimization

Mr.Boya Rudraiah

rudrarudraiah3@gmail.com

Mohan Babu University, Tirupati, AP

ABSTRACT:

This is a case where one is trying to come up with a way to get Machine Learning algorithmsto help in crop yield prediction with various soil composition, weather patterns, temperature, humidity, as well as rainfall datasets. As such, the machine learning tool must be of great importance and a decision support tool that would enable farmers to get the right information on what crop to grow, to and how to do so while the crops are in the growth stages. Further study has been undertaken upon advanced approaches, i.e., on Gradient Boosting Algorithms, Neural Network and Hybrid Time Series Models in an attempt to increase prediction accuracy. It also includes the incorporation of remote sensing into monitoring the growth of plant, identification of disease and mapping and counting of trees. In addition, the optimal choice of feature along with the algorithm is made to improve the predictive capability. These models were realized and integrated in decision support systems tailored for the use of the farmers in making agricultural planning that will be data driven. Future research discussion includes how to make model more robust, ease the model to adapt real time data, and create simple interfaces for the model to encourage adoption by agricultural community. Application of machine learning based prediction methods in this study will be useful in the advancement of this study towards improving crop management strategies aimed at achieving sustainability in farming. Yet, its findings are solidified by the factuality that artificial intelligence will assist in transforming the farming as we know it, in replacing the farming with the contemporary world, making the farming efficient and more data driven means of agriculture.

Keywords:

machine learning, crop yield prediction, neural networks, gradient boosting, hybrid time series models, remote sensing, precision agriculture, decision support systems, real- time data, sustainability

NCICT250311

Gynecological Disease Diagnosis Expert System GDDES Based on Machine Learning Algorithm and Natural Language Processing

Navya M

navyam1014@gmail.com

Abstract:

The Advanced Expert System for Gynecological Disease Diagnosis (GDDES) represents a cutting-edge AI-powered diagnostic tool designed to enhance the identification and management of complex gynecological disorders, with a primary focus on Urinary Tract Infection (UTI) and Polycystic Ovary Syndrome (PCOS). The increasing prevalence of gynecological diseases and the critical need for early, accurate diagnosis underscore the system's relevance in modern healthcare. GDDES leverages advanced machine learning (ML) algorithms and natural language processing (NLP) to analyze patient-reported symptoms, medical histories, and real-time user inputs, generating precise diagnostic predictions and personalized treatment recommendations. By integrating AI-driven analysis with expert medical knowledge, GDDES enhances diagnostic accuracy and accessibility, particularly in regions with limited access to specialized gynecological care. At the system's core lies a robust ensemble of supervised ML models trained on a comprehensive dataset encompassing diverse gynecological cases and expert-verified medical records. The system employs probabilistic reasoning and pattern recognition to classify symptoms and map them to established disease profiles with high accuracy. The system mitigates diagnostic delays and minimizes the risk of misdiagnosis by providing immediate, evidence-based insights. Future enhancements will focus on broadening the diagnostic scope to encompass additional gynecological disorders, refining NLP capabilities for more nuanced user interactions, and integrating predictive analytics to assess long-term disease risks. Through the convergence of AI innovation and medical expertise, GDDES aims to redefine the landscape of gynecological healthcare by facilitating early detection, improving treatment outcomes, and expanding access to specialized care

KEYWORD

Gynecological disease diagnosis,Advanced Expert System (GDDES),Urinary Tract Infection (UTI),Polycystic Ovary Syndrome (PCOS),Artificial Intelligence in healthcare,Machine learning (ML) algorithms,Natural language processing (NLP),Supervised ML models,Probabilistic reasoning,Pattern recognition

NCICT250323

Intelligent Browsing activity and Monitoring System.

R. Viswanathan

viswanathan092003@gmail.com

Dr. Mahalingam college of Engineering and Technology

Abstract:

This project proposes a scalable AI-based solution designed to detect mental health distress through browser behavior analytics. By leveraging machine learning algorithms, the platform identifies early signs of distress and sends real-time alerts to designated caregivers, such as parents or mental health professionals. This timely intervention is crucial for preventing mental health crises and ensuring that individuals receive the support they need. The platform also provides educational resources and guides for mental health awareness, fostering a supportive environment for both individuals and caregivers. Additionally, robust privacy controls are implemented to ensure a safe and ethical use of AI in mental health monitoring. The solution aligns with current trends in AI applications for mental health, which emphasize early detection, personalized support, and predictive analytics. By integrating AI with existing mental health services, this platform enhances caregiving efficiency and emotional well-being. However, it also addresses ethical considerations by prioritizing privacy and cultural sensitivity, ensuring that the solution is effective across diverse populations. Future directions include conducting longitudinal studies to evaluate the long-term impact of AI-based solutions on mental health outcomes and developing culturally sensitive models to ensure global applicability. Overall, this AI-based platform offers a comprehensive approach to mental health support by combining early detection with educational resources and privacy controls. By mitigating mental health crises and enhancing overall well-being, this solution contributes significantly to the evolving landscape of AI in mental health care..

KEYWORDS

AI in Mental Health Monitoring,Browser Behavior Analytics,Machine Learning for Mental Health,Early Detection of Mental Health Distress,Predictive Analytics in Mental Health,Real-time Mental Health Alerts,Ethical AI in Healthcare,Privacy in Mental Health AI

NCICT250325

FUEL CONSUMPTION PREDICTION

J.SURIYA

suriyaamudha04@gmail.com

DR. M.G.R EDUCATIONAL AND RESEARCH INSTITUTE,

ABSTRACT:

Every shopper looks for the best deals & discounts before buying any product. Nowadays before purchasing anything the buyers do some online research of the products on the internet. One of the major factors which lead to purchasing of any product is cost or pricing. The buyers tend to compare prices before purchasing any product.But since it is very difficult to visit each & every website for price comparison, there needs to be a solution to automate this process. The Price comparison website project proposed here gathers information on product prices from various websites & presents it to the users. The users can then choose to buy from the best options available. Even Ecommerce traders can use this price comparison website to study their competitors and form new strategies accordingly to attract new customers & stay ahead of their competitors.This price comparison website for products will help to compare the price from various e-commerce websites, This Price comparison site is extremely helpful for frequent online shoppers to check prices on different online stores in one place.This system will show you the product prices from different retailers to show you where to buy the product at affordable price, Any two static websites classes are analysed to get the pricing details, To get the pricing details, the system visits the website based on user's search and downloads the html search page of that specific website, Once prices from both the websites are retrieved, it is displayed on our website in the form of price comparison.

KEYWORD

Price Comparison Automation,Online Shopping Price Comparison,E-commerce Price Analysis,Competitive Pricing Strategies,Product Price Aggregation,Real-time Price Comparison,Web,Scraping for Price Data,Affordable Product Search,Consumer Decision Support

NCICT250327

MUNICIPAL CORPORATION COMPLAINT MANAGEMENT SYSTEM

Kamatham Umamaheswari

kumamaheswari243@gmail.com

Mohan Babu University

ABSTRACT

This is a Web-based application concentrates on accepting the problems from the citizens, distributing to the relevant official and giving notifications to the officials and supporting the citizens in solving their problems with the day to day tasks of the corporation. The system provides real-time updates on the status of complaints and allows citizens to track the progress of their complaints. The complaint submission is through an online portal where citizens submit their complaints and send it to the respective department. This will further enhance the quality of municipal services and satisfaction from the citizen side, by improving the quality of services offered, which are being made transparent by this system. The system provides transparency and accountability by enabling the citizen to follow up on their submissions, which creates a conducive environment between the public and local government. Besides, the application provides citizens with resources and advice on how to interact with the corporation, leading to a responsive and engaged community.

Keywords:

Transparency, Accountability, Real-time updates

NCICT250357

GESTURA-AIPoweredAccessibilityforEnablingEffectiveCommunicationfor HearingandSpeech Impaired in Virtual Platforms

SowmiyaS , AbinayaSM , Sandiya C
sowmiya.s.cse@psvpec.in,abinayam70@gmail.com,sandiyachandrasekhar@gmail.com

PrinceshriVenkateshwarapadmavathyengineeringcollege

ABSTRACT:
Effective communication is essential for sharing information, ideas, and emotions, especially indiversesocialsettings.Individualswithhearingandspeechimpairmentsfacesignificantchallenge sin virtual and physical communication. Existing sign language recognition technologies and virtual platforms often lack inclusivity and real-time functionality. There is a growing need for advancedAIdrivensolutionstobridgecommunicationgapsinvirtualenvironments.Thisprojectaim stocreatean AI-powered system to bridge the communication gap between hearing and speech-impaired individuals and hearing individuals in virtual meetings. The system features a Sign Recognition Module (SRM) for sign language interpretation, a Speech Recognition and Synthesis Module (SRSM) for text conversion, and an Avatar Module (AM) for visually translating speech into sign language. Integrated into platforms like Zoom and Microsoft Teams, this system enhances inclusivity and enables seamless, real-time communication for diverse users.

KEYWORDS:

Sign language recognition, AI-powered communication, virtual meetings, inclusivity, speech synthesis,real-timetranslation,assistivetechnology,accessibility,avatar-basedtranslation,hearing and speech impairment, AI-driven solutions, human-computer interaction,machinelearning, gesture recognition

NCICT250361

MindGuardAI:AutomatedMentalWell-beingClassifier

DhanalakshmiR, HariprasathT, Diwakar P

r.dhanalakshmi.cse@psvpec.in, hariprasath23pugazh@gmail.com, diwakar11p04@gmail.com

PRINCE SHRIVENKATESHWARA PADMAVATHY ENGINEERINGCOLLEGE

ABSTRACT:

Mental health challenges, ranging from stress and anxiety to severe disorders like schizophrenia and bipolar disorder, are increasingly prevalent, yet access to timely psychological support remains limited. This paper introduces AI Psychologist, an AI-driven virtual assistant designed for general users to assess, monitor, and improve mental well-being through text-based conversations. The system employs state-of-the-art Natural Language Processing (NLP) models (e.g., GPT, BERT) and clinically validated psychometric evaluations (e.g., PHQ-9 for depression, GAD-7 for anxiety) trained on datasets such as DAIC-WOZ, PsyC, and MindLAMP. Users undergo periodic assessments, allowing the AI to track mental health trends over time. Personalized self-help recommendations include Cognitive Behavioral Therapy (CBT) exercises, meditation, journaling, andIntegration with mental health apps (e.g., Calm, Headspace). Users can customize these recommendations to align with their personal preferences. A key innovation is the dynamic Risk Assessment Score (RAS), which adapts over time by analyzing user responses, emotional patterns, and psychometricscores.IftheRASsurpassesacriticalthreshold,thesystemescalatesintervention,offe ringemergencyalerts,crisishelplines,and professional referrals. Users can also export their mental health reports for psychologist review. By providing accessible, adaptive, and intelligent mental healt support ,AIP sychologist bridges the gap between self help and professional care, redefiningthe future of psychological assistance.

Keywords:

AIPsychologist,MentalHealthAI,PsychometricAnalysis,NaturalLanguageProcessing(NLP),AIinH ealthcare, Risk Assessment in Mental Health, Cognitive Behavioural Therapy (CBT),AI-driven Therapy, Digital Mental Health Assistant ,Mental Health Monitoring.

NCICT250362

INTEGRATEDAGRICULTUREENHANCEMENTANDPRODUCEMANAGEMENTSYSTEM

Mr.OosaNaveen

naveenoosa58@gmail.com

ErstwhileSreeVidyanikethanEngineeringCollege

ABSTRACT

The Integrated Agriculture Enhancement and Produce Management System (IAE-PMS) aims to improvefarming and manage produce more effectively using modern technology. It utilizes tools like the Internet of Things(IoT) and improvesagricultural production forecasts through the combination ofLinear Regression with Convolutional Neural Networks (CNN) which apply time series forecasting techniques. Linear Regression establishes a connection between environmental data, which enables accurate agricultural application techniques.The deep learningmodels initiatedby CNN have the capability t oexamineagriculturalpicturesand diagnose crop health problems while simultaneously identifying diseases and pests and assessing nutrient deficiencies. Using Time Series Forecasting built with ARIMA algorithms and LSTMs enable farmers to forecast yield patterns combined with market price movements and meteorological conditions, thus helping them schedule planting times along with selecting perfect harvest seasons for profitable crop sales.The artificial intelligence-basedcapabilitiesofIAEPMSprovideimprovedfarmadministrationandlowerwastemanagement in agricultural harvesting, as well as optimized supply chain control. Real-time data assessments operate automatic management platforms, and prediction systems assist farmers to create sustainable farming approaches and develop food safety. This study provides benefits to farmers by applying contemporary agricultural systems in addition to traditional farming approaches to maximize productivity cost reductions through climate change adaptation methods.

Keywords:

Integrated Agriculture, Smart Farming, IoT in Agriculture, Machine Learning, Data Analytics, PrecisioD
Agriculture,TimeSeriesForecasting,LinearRegression,ConvolutionalNeuralNetworks(CNN),S ustainable Agriculture.

NCICT250363

INTELLIGENT STREET LIGHT NETWORK WITH PREDICTIVE MAINTENAN CEANDPUBLICCOMPLAINTHUB

Revathi K , Tanushri.V, KeerthanaS

kr.revathi@gmail.com, tanushri11011@gmail.com, keerthana.s.it25@psvpec.in

PrinceShriVenkateshwaraPadmavathyEngineeringCollege

ABSTRACT

Efficient street lighting is essential for urban safety and energy conservation. However, traditional fault detection methods rely on manual inspections, leading to delays and increased maintenance costs. This paper presents an IoT and Machine Learning (ML)-based Smart Street Light Fault Detection System using ESP32 to automate fault detection and alertme chanisms. Thesystem integratescurrent,temperature,andlightsensors to monitor real-time streetlight performance. Using ML algorithms, it detects anomalies such as burnt-out bulbs, overheating, and wiring failures, significantly reducing response time. Detected faults are immediately displayed on a web-based dashboard with real-time notification to the maintenance teams. The system leverages data analytics for predictive maintenance, reducing operational downtime and ensuring proactive repairs .Additionally, thewe binterface providesaninteractivemap basedvisualizationofstreetlights,allowing authoritiesto monitor and manageinfrastructure efficiently. Thisapproach enhancesenergy efficiency, lowers costs, and contributes to sustainable urban development, aligning with smart city initiatives. The proposed solution outperforms traditional methods by improving fault detection accuracy, optimizing maintenance workflows, and ensuring uninterrupted street lighting services.

KeywordS:

IoT,MachineLearning,SmartStreetLightingFaultDetection,ESP32,PredictiveMaintenance,We b-Based Monitoring.

NCICT250367

Trash-to-Treasure:High-QualityGoodsfromRecycledMaterials

Ms. Dondla Venkatasivamma, Ms.K.ChandraKala

venkatasivammadondla@gmail.com, chandrakalakonangi@gmail.com

ErstwhileSreeVidyanikethanEngineeringCollege,Tirupati,AP,India

ABSTRACT

Electronic waste (e-waste) poses an increasing ecological issue, which demands innovative solutions for recycling. "Trash to Treasure" makes use of a hybrid algorithm in order to recycle and reuse e-waste economically into high-grade resableitems.ThroughtheutilizationofAI-drivensorting,mechanical separation, and automated classification, our system ensures maximum resource recovery with minimum wastage. This project facilitates the circular economy through refurbishment and resale of salvaged components, minimizing landfill content. By working with stakeholders, we seek to create a scalable, sustainable model for e-waste management that promotes environmental and economic advantages.

Keywords:

E-wasterecycling,hybridalgorithm,circulareconomy,resourceecovery,sustainabletechnology.

NCICT250368

ObjectDetectionSystemusingDeepLearningfortheVisuallyImpaired

Ms.A.Soundarya

Sri Eshwar College of Engineering, coimbatore

Abstract:

This research introduces an IoT-enabled automated object recognition system aimed at enhancing the independence and safety of visually impaired individuals. By integrating IoT devices, computer vision techniques, and audio feedback systems, the proposed solution allows real-time identification and verbal description of nearby objects. Data is gathered from IoT-enabled cameras and sensors, which capture images of the surroundings and process them using classical machine learning algorithms such as YOLO. To optimize accuracy and speed, the system utilizes edge computing, reducing latency by processing data on local IoT nodes. An audio interface then relays object descriptionstothe user, allowingseamless navigationin complexenvironments.Thisstudypresents a detailed methodology for developing the IoT-based recognition model, including data preprocessing, model training, and the implementation of real-time audio feedback. The proposed system is evaluated against traditional object recognition models, demonstrating improvements in accuracy and processing time, thus validating its effectiveness as an assistive technology for the visually impaired. This research contributes to smart assistive solutions by offering a robust framework that significantly enhances object awareness and interaction for users.

Keywords:

YOLO,ComputerVision

NCICT250374

AI-BASED ADAPTIVE CYBER SECURITY SYSTEM FOR ZERO-DAY ATTACKS

Mr.Annem Suresh, Ms.PeddintiNeeraja

Sureshrocky699@gmail.com

Mohan Babu University, Tirupati

India.)neeraja.ayyangar@gmail.com

ABSTRACT

Traditional signature-based security solutions are rendered ineffective by zero-day attacks exploiting yet-to-be-known vulnerabilities. This paper presents an AI adaptive cybersecurity solution powered by Gated Recurrent Unit (GRU) algorithms and Long Short-Term Memory (LSTM) for threat prevention and anomaly detection in real-time to solve this issue. The deep learning algorithms identify possible zero-day attacks, identify abnormality from normal use, and acquire network traffic behavior. Long-term dependencies among sequential data are best encoded with LSTM, although GRU accomplishes a quality close to the same with the benefit of requiring less computation. They bring dynamic response capacity and the adaptability to respond to new emerging cyber-threats into the system.Based on experimental results, the proposed method outperforms traditional methods in responding and accurately detecting new attacks. Computational cost, false positives, and data skewness remain issues,though. For more precise detection, future research can utilize reinforcement learning, hybrid AI models,and sophisticated feature selection methods. Moreover, scalability and real-time response can be improved by deploying the system on cloud-based or edge computing platforms. The deployment of AI-driven cybersecurity measures to enhancing digital security tools and enacting active defense strategies in addressing increasing complexity in zero-day attacks in a mature cyber threat environment comes into the limelight based on this research.

Keywords: AI-based cyber security, zero-day attacks, LSTM and GRU**.**

NCICT250380

Enhancing Groundwater Levels through store the Rainwater

G.PattabiNarasimha,Mr.Anvesh

ABSTRACT

Groundwater levels have declined significantly in the last decades in many parts of the world, due to anthropogenic activities and climate change. The study focuses on the long-term potential and environmental impacts of rainwater harvesting .Traditional Rainwater Harvesting (RWH) model,Hydraulic aquifer recharge and Analytical Hierarchy Process (AHP) such as recharge pits, and check dams are used to capture rainwater but it has Limited scalability and optimization in urban contexts. Rooftop Rain Harvesting The pipes are connected to catchments for transporting rainwater to the recharge area.To overcome the traditional model we proposed Linear Regression,Neural Networks algorithms. As Compared to traditional model we can predict the best accuracy.

Keywords:- Groundwater Decline,Rainwater Harvesting (RWH),Rooftop Rainwater Harvesting,Rooftop Rainwater Harvesting,Neural Networks in Water Prediction,PredictiveModeling for RWH

NCICT250383

Block Chain In Health Care With IOT Devices

JyotiChitti, Dr.Mahantesh N. Birje

Department of CSE, VTU, Belagavi

Abstract

The convergence of blockchain technology and IoT (Internet of Things) devices in healthcare is transforming the way patient data is collected, stored, and shared. IoT devices such as wearable sensors, smart medical equipment, and remote monitoring systems continuously generate real-time health data. However, ensuring the security, privacy, and integrity of this data remains a challenge. Blockchain offers a decentralized and tamper-resistant solution, enabling secure data management and seamless sharing between healthcare providers, patients, and researchers. By integrating smart contracts, automated processes can validate and enforce data exchange rules, enhancing the efficiency and accuracy of healthcare services. This integration not only mitigates data breaches but also promotes transparency, patient empowerment, and compliance with regulatory standards such as HIPAA and GDPR. This paper explores the potential of blockchain and IoT integration in healthcare, addressingits benefits, challenges, and future implications for advancing healthcare delivery and patient outcomes.

Keywords:

Block chain Technology, IoT Devices, Healthcare Data Security, Smart Contracts, Patient Privacy

Dr.M.G.R.

EDUCATIONAL AND RESEARCH INSTITUTE

DEEMED TO BE UNIVERSITY

University with Graded Autonomy Status

(An ISO 21001 : 2018 Certified Institution)

ACCREDITED WITH GRADE A+ NAAC

E.V.R Periyar Salai (NH4 Highway), Maduravoyal, Chennai, Tamil Nadu-600095

Department of Computer Science and Engineering

ABET

NBA NATIONAL BOARD OF ACCREDITATION

10th National Conference on
Innovative Computing Techniques

NCICT'25

MATRIX

M-Machine Learning A-AI T-Transfer Learning R-Robotics I-IoT X-XAI(Expandable AI)

Our conference serves as a dynamic platform for Academicians, Researchers, and Industry Experts to converge, exchange ideas, and propel the boundaries of innovation. Together, we embark on a journey to fulfil new digital objectives, unlocking the boundless growth potential inherent in the digital universe. Join us at MATRIX (M-Machine Learning, A-AI, T-Transfer Learning, R-Robotics, I-IoT, X-XAI-Expandable AI) and become part of a vibrant community driving forward the frontiers of technology digital transformation.