EGS PILLAY 30

ENGINEERING COLLEGE, NAGAPATTINAM

(AUTONOMOUS)

DEPARTMENT OF INFORMATION TECHNOLOGY

Aura'25

INFO·TECH

INTERNATIONAL SYMPOSIUM ON CONVERGING TECHNOLOGIES FOR A SUSTAINABLE AND INTELLIGENT FUTURE

SYMPOSIUM ABSTRACT PROCEEDINGS

APRIL '25

DEPARTMENT OF INFORMATION TECHNOLOGY

FAITH ASSOCIATION

AURA ' 25

VISION & MISSION OF THE DEPARTMENT

VISION

To produce globally competent information technologist and to inculcate values of leadership and research qualities in them.

MISSION

1. To provide high quality Education to the students by our competent faculty members, effective teaching learning process and value added courses.
2. To create centres of excellence by interacting with industries for better employability and to contribute to the society through consultancy and R&D works.
3. To improve the soft skill, interpersonal skill, ethical behaviour and communication skill of students by involving them in team works and technical events.

Greetings and Best Wishes for the Symposium

It is with immense pleasure that i extend my warmest greetings to all esteemed participants of the “International Symposium on Converging Technologies for a Sustainable and Intelligent Future”

This joint Magazine and Proceedings serves as both a comprehensive guide to our gathering and a permanent record of the high-calibre intellectual contributions presented here. It is a testament to the dedication and collaborative spirit of the global academic community.

Our sincere wishes are for a truly successful event marked by profound insights, vigorous debate, and the illumination of new pathways for research and innovation.

I trust that the information contained within these pages will be a valuable resource during the symposium and a lasting reference afterward.

With sincere greetings and hopes for a rewarding experience,

Dr. G. Arul Selvan M.E., Ph.D.,

Assistant Professor and Head

Department of Information Technology,

E.G.S. Pillay Engineering College,

Nagapattinam.

EGS PILLAY ENGINEERING COLLEGE, NAGAPATTINAM (AUTONOMOUS)

Department of Information Technology

Dr.K.ManikandaKumaran
Associate professor
Chair Person

Dr.K.Manikandan
Associate professor
Chair Person

Dr.K.Balasubramanian
Associate professor

Dr.G.Arul Selvan
HOD IT

Mrs.A.Hemalatha
Assistant professor

Mrs.S.Soundharya
Assistant professor

Mrs.S.Preethi
Assistant professor

Mrs.V.Surya
Assistant professor

Mr.D.Karthikeyan
Assistant professor

Mr.S.Rajkumar
Assistant professor

Mrs.S.Deepika
Assistant professor

Ms.R.Hema
Assistant professor

Mrs.R.Pratheba
Assistant professor

Ms.K.Vijayalakshmi
Assistant professor

Dr.K.Kannaki
Associate professor

Dr.V.Johnpaul
Assistant professor

Mrs.S.Sri Vidhya
Assistant professor

Ms. C. Nivetha Lincy
Assistant professor

Software Engineering And Web Technology:Building Tomorrow's Digital World

Author(s):

Girija M, Kings College of Engineering, Pudukkottai, Tamilnadu

Gopika V, Kings College of Engineering, Pudukkottai, Tamilnadu.

Email: gopikavetriselvam@gmail.com

ABSTRACT

This paper explores the evolution and current state of software engineering and web technology, emphasizing how foundational practices have transformed into advanced innovations. From linear Waterfall models to Agile and DevOps, the software development lifecycle has adapted to meet increasing demands for complexity and scalability. Next-generation tools, such as AI-driven development environments, Progressive Web Apps, and Web Assembly, are now transforming how digital solutions are built and delivered. The study synthesizes current industry trends, emerging methodologies, and essential competencies needed for the future workforce in the digital domain.

Keywords: Software Engineering, Web Technology, Agile, DevOps, Cloud Computing, Artificial Intelligence, Emerging Technologies.

AI-Augmented Topology Optimization and Generative Design for Industrial Additive Manufacturing

Author(s):

Ganesh T N Bhushan, Department of Mechanical Engineering , JAIN University, Bengaluru, India.

Email: ganeshtnbhushan@gmail.com

ABSTRACT

Artificial Intelligence (AI) is revolutionizing manufacturing by enabling Industry 5.0, characterized by human-machine collaboration. The integration of Topology Optimization (TO), Generative Design (GD), and Additive Manufacturing (AM) allows creation of lightweight, complex components critical to aerospace, automotive, and tooling industries. Challenges remain in converting optimized designs into certifiable parts due to high computational costs, inability to capture real-world manufacturing effects, and lengthy validation cycles. This study proposes an AI-augmented TO+GD+AM pipeline incorporating ML surrogates, reinforcement learning (RL), and Digital Twin feedback. This methodology accelerates design-to-prototype cycles, embeds manufacturability constraints, and enables production of industrial-grade components with optimized weight, structural integrity, and compliance.

Keywords: Industry 5.0, Digital Twin, Machine Learning, Generative Design, Pipeline.

AI-Driven Money Laundering Detection System for Secure Financial Transactions

Author(s):

Manju V, Department of Computer Science and Engineering, GRT Institute of Engineering and Technology, Tiruttani, Tamil Nadu.

Email: manjuvelu21@gmail.com

ABSTRACT

Money laundering remains a major threat to global financial security, with conventional rule-based Anti-Money Laundering (AML) systems struggling to adapt to evolving schemes. These systems often produce excessive false positives while missing sophisticated laundering patterns. This paper introduces SafeLedger, an AI-driven AML framework that combines machine learning, anomaly detection, and natural language processing (NLP) to enhance fraud detection in financial transactions. The system integrates supervised models (XGBoost) with unsupervised approaches (Autoencoders, clustering) to capture both known and novel behaviors. In parallel, NLP modules powered by Transformer architectures (FinBERT) analyze unstructured financial records, emails, and KYC data for hidden risks.SafeLedger is deployed in a scalable cloud environment with real-time monitoring and API integration, enabling seamless adoption by banking and fintech platforms. Experimental results on synthetic datasets demonstrate significant improvements in detection accuracy, reduced false positives, and lower compliance burdens, highlighting its potential for secure, transparent financial ecosystems.

Keywords: Artificial Intelligence, Machine Learning, AML, Fraud Detection, Financial Security.

AR/VR as a Pathway to Sustainable Construction: Visualizing Emerging Materials

Author(s):

Avani Kulkarni, Department of Computer Science and Engineering, Sanjivani University, Kopargaon, India.

Email: avani.kulkarni24@sanjivani.edu.in

ABSTRACT

The construction industry is a leading source of global carbon emissions, largely driven by the extensive use of traditional materials such as concrete and clay bricks. Innovative low-carbon materials, including rice-husk bricks, hempcrete, and recycled-plastic masonry, offer opportunities to reduce environmental impact, enhance thermal performance, and support circular economy principles. However, adoption of these materials is limited by insufficient awareness, difficulty in assessing performance, and fragmented data availability. This paper presents a framework leveraging Augmented Reality (AR) and Virtual Reality (VR) to facilitate immersive visualization of material impacts. VR allows stakeholders to experiment with different materials in digital models, instantly observing effects on energy consumption, indoor comfort, and embodied carbon. AR overlays material options on physical structures, displaying relevant metrics to guide on-site decisions. By integrating immersive tools with material property databases and digital twins, this approach transforms sustainable construction concepts into actionable, data-driven solutions. Furthermore, incorporating AI assisted recommendations and IoT-enabled sensors can enhance material selection and lifecycle monitoring.

Keywords: Augmented Reality, Virtual Reality, Sustainable Construction, Digital Twin, Immersive Visualization, Embodied Carbon.

SmartPDFRenamer: Intelligent Document Renaming Using AI, OCR, and Rule-Based Processing

Author(s):

Abhijeet Vishawakarma , Independent Researcher, Thane, India Aditya Waghmare, Independent Researcher, Thane, India

Email : awaghmare7304@gmail.com

ABSTRACT

Manual renaming of PDF documents in educational institutions, businesses, and freelance work is traditionally repetitive and time-consuming, often leading to inconsistencies and human errors. This paper presents SmartPDFRenamer – "Give My PDF a Name", a web-based system that automates PDF renaming using AI, OCR, and rule-based methods. Two renaming approaches are offered: Rule-Based Method, where users define keywords, patterns, or positional mappings, and AI-Based Method, which automatically generates meaningful filenames. Optional Google Drive integration enables direct cloud renaming. Temporary storage with automatic cleanup ensures privacy and security. This solution reduces manual effort, minimizes human error, and provides an efficient, scalable, and user-friendly digital document management approach.

Keywords: PDF Renaming, Automation, Python Flask, OCR, AI, Rule-Based Extraction, Digital Document Management.

Mobile-Enabled IOT Security: A Systematic Survey

Author(s):

Abineshwaran A , Department of Electronics and Communication Engineering ,

University College of Engineering Thirukkuvali, Tamil Nadu, India.

Email: abines222@gmail. Com

ABSTRACT

The Internet of Things (IoT) is rapidly expanding across healthcare, transportation, smart homes, smart cities, and energy systems. These devices continuously exchange data through sensors and actuators but remain highly vulnerable to cyberattacks, privacy breaches, and security flaws. This study conducts a systematic literature survey (SLS) to examine the security challenges IoT devices face and explores how mobile computing can help address them. Smartphones, mobile applications, and related infrastructures are highlighted as effective tools to mitigate IoT vulnerabilities. Both hardware- and software-driven solutions are reviewed, making this one of the first comprehensive studies to frame IoT security through the perspective of mobile computing. The findings aim to bridge current research gaps and guide future security innovations in the IoT domain.

Keywords: Internet of Things (IoT), IoT Security, Mobile Computing, Mobile-Enabled Security, Authentication in IoT, IoT Vulnerabilities & Firmware.

Smart Energy System for IoT Using Japanese Walking Technology: A Proposed Framework

Author(s):

Ovais Shaikh, Department of Information Technology, Vidyalankar School of Information Technology, Mumbai, India

Email: mohdovais.shaikh@vsit.edu.in

ABSTRACT

Internet of Things (IoT) devices require continuous power to operate efficiently, yet most rely on batteries that need frequent replacement, increasing costs and environmental impact. This research proposes a sustainable energy solution using Japanese piezoelectric technology to harvest electricity from human footsteps and vibrations in high-traffic areas. The proposed framework converts mechanical energy into electrical energy to power IoT sensors, eliminating the need for battery replacements. The methodology includes installation of piezoelectric sensors, energy conversion, storage, and smart distribution to IoT devices. By leveraging foot traffic, the system aims to reduce maintenance costs, extend sensor lifetime, and minimize electronic waste. This research provides a theoretical foundation for implementing scalable, eco-friendly, and cost-effective energy harvesting solutions for smart city infrastructures.

Keywords: IoT, Energy Harvesting, Japanese Technology, Smart Cities, Sustainable Energy.

Dynamic Web-Based Task Management System Using Modern Software Engineering Principles

Author(s):

Ujjawal Kumar, Department of Information Technology, Asansol Engineering College, Asansol, India

Email: kujjawal8294@gmail.com

ABSTRACT

Effective task management is a critical factor in ensuring productivity and collaboration within both organizational and personal environments. Traditional methods—such as spreadsheets, physical planners, and basic note-taking tools—often lead to inefficiencies, lack of real-time collaboration, and difficulty in monitoring progress. To address these challenges, this paper presents the design and implementation of a dynamic web-based task management system that streamlines task creation, assignment, tracking, and progress monitoring for individuals and teams. The proposed system emphasizes affordability, user friendliness, and scalability, differentiating it from complex enterprise project management tools that are often costly and require specialized training. It is developed using modern web technologies: HTML5, CSS3, JavaScript for the frontend; PHP for the backend; and MySQL for database management. Key features include real-time updates, intuitive task dashboards, automated email reminders, and notification services to ensure deadlines are met and team coordination is improved.

Keywords: PHP, MySQL, Responsive UI, Object-Oriented Programming, Collaboration Tools, Automation, Project Tracking, Email Reminders.

Unveiling Mobile Thefting

Author(s):

Chandrasekaran S, Department of Computer Science and Engineering, PSNACET, Dindigul, Tamil Nadu, India

Email: chandrasekaran2006s@gmail.com

ABSTRACT

This study focuses on ways to prevent mobile theft and reduce cybercrimes. As smartphones are widely used for communication, banking, and storing personal data, losing them can lead to serious problems. This research explores security measures like fingerprint locks, remote phone tracking, AI-based fraud detection, and spreading awareness about safe mobile usage. It also examines how laws and police efforts help in reducing mobile theft. By combining technology and awareness, this study suggests effective ways to keep mobile devices secure and protect users from cyber threats.

Keywords: Mobile Theft, Cybercrime Prevention, Smartphone Security, Data Protection, AI in Cybersecurity, Law Enforcement, User Awareness.

Intelligent Piezoelectric Energy Harvesting Framework for Self-Sustaining IoT Networks: A Study on Japanese Walking-to-Electricity Technology Integration

Author(s):

Ovais Shaikh, Department of Information Technology,

Vidyalankar School of Information Technology, Mumbai,India

Email: ovais.0404@gmail.com

ABSTRACT

The rapid expansion of Internet of Things (IoT) ecosystems has created significant challenges in maintaining sustainable power supply for billions of distributed sensor nodes. Traditional battery-powered IoT devices face limitations in longevity, environmental impact, and maintenance costs, particularly in remote or inaccessible locations. This research investigates the integration of Japanese-developed piezoelectric energy harvesting technology with intelligent power management systems to create self-sustaining IoT networks that convert mechanical vibrations from human movement and environmental sources into usable electrical energy.

Keywords: Piezoelectric Energy Harvesting, IoT Sustainability, Japanese Technology, Machine Learning, Self-Sustaining Networks, Smart Cities.

SOFTWARE ENGINEERING AND WEB TECHNOLOGY

Author(s):

A.Bhavashree, RM.Dharshini Department of Computer Science and Engineering

kings college of engineering

Email: Bhavashreebhavashree99@gmail.com

ABSTRACT

The rapid evolution of technology has made software engineering and web technology central to modern digital solutions. Software engineering provides systematic methodologies for designing developing, testing, and maintaining reliable, scalable, and cost-effective software. Concurrently, web technology offers a versatile platform for building interactive, secure, and user-centric applications across industries such as business, education, and healthcare. This paper explores the foundational principles of software engineering, key development models, and quality assurance practices, alongside an overview of web technology components, architectures, and security considerations. It further highlights emerging trends, including AI integration, IoT, Web 3.0, and low-code platforms, emphasizing their impact on shaping future web applications. By bridging the methodology of software engineering with the platform capabilities of web technology,this study demonstrates how modern digital solutions can be effectively designed, implemented, and secured.

Keywords: Software Engineering, Web Technology, Software Development Models, Quality Assurance, Web Architecture, Security, Artificial Intelligence, Internet of Things (IoT), Web 3.0, Low-Code Platforms, Digital Solutions

Cyber Security and Ethical Hacking

Author(s):

K.Dhatthayani,M.Kamatchi Department of Computer Scinence Engineering

Kings college of Engineering Pudukottai

Email: kamss23270419@gmail.com

ABSTRACT

Cyber Security plays a crucial role in protecting digital systems, networks, and sensitive data from malicious attacks. With the rapid growth of technology and cloud computing, threats like viruses, data breaches, and system vulnerabilities have increased significantly.Ethical Hacking, also known as penetration testing, involves authorized professionals who simulate cyberattacks to identify weaknesses before real hackers exploit them. Certified Ethical Hackers use tools and techniques for vulnerability assessments, penetration testing, and system defense while ensuring safety through practices like two-factor authentication and secure system design. Ethical hackers work alongside in house security teams and product security teams tostrengthen digital infrastructure, safeguard information, and build resilience against evolving cyber threats. By adopting proactive measures, organizations can ensure security and maintain trust in the digital world.

Keywords: Cyber Security, Ethical Hacking, Penetration Testing, Vulnerability Assessment, Data Protection, Network Security, System Defense, Cloud Computing, Certified Ethical Hacker, Digital Infrastructure

Neuromorphic Computing

Author(s):

S.A. Jagadeesh, A. Balamurugan,Department of Computer Science and Engineering

Mookambigai College of Engineering, Pudukkottai, India.

Email: bjagathise2005@gmail.com

ABSTRACT

Neuromorphic computing is an innovative paradigm that mimics the neural structure and functioning of the human brain to achieve efficient and intelligent computation. By combining memory and processing within spiking neural networks, it enables faster and low-power event-driven operations. This paper provides an overview of the core principles, hardware architectures, and key applications of neuromorphic systems. Special emphasis is placed on case studies and LVAD (Low-Voltage Analog Design) implementations that demonstrate real-world applicability. The study highlights how neuromorphic computing can transform future intelligent and adaptive technologies.

Keywords: Neuromorphic computing, Spiking neurons, Brain-inspired computing, AI hardware, LVAD

AI-Powered Mental Health and Counseling Platform using Web Technologies

Author(s):

Darani.A,Varsha.S

Email: daraniayyappan0@gmail.com

ABSTRACT

Mental health problems such as stress, anxiety and depression are becoming increasingly common, especially among students and working professionals. Unfortunately, many individuals hesitate to seek professional counseling due to social stigma, fear of judgment, or being mocked by peers. This avoidance leads to worsening mental conditions, reduced productivity, and long-term negative effects on personal well-being. Addressing this challenge requires an innovative solution that provides safe, private, and stigma-free mental health support. This paper proposes the development of a web-based counseling platform integrated with artificial intelligence (AI) to make mental health services more accessible and acceptable. Built using modern software engineering principles and web technologies such as HTML, CSS, JavaScript, and secure databases, the platform provides a user-friendly and reliable digital environment. Users can interact with AI-powered chatbots for initial support, use NLP-based sentiment analysis to detect emotions, and connect with professional counselors through secure chat and video features. The system emphasizes anonymity and confidentiality, which encourages individuals to seek help without fear of social ridicule.

Keywords: Mental Health, Counseling Platform, Web Technology, Artificial Intelligence, Social Stigma, Confidentiality, Software Engineering.

Phish Bully: Intelligent Phishing Detection System

Author(s):

Lavanya, Naga Sravani

Email: lavanyarachabattuni@gmail.com

ABSTRACT

With the rapid expansion of digital communication, phishing attacks have become a major cybersecurity threat, exploiting human trust and technological vulnerabilities. Cybercriminals use deceptive emails, websites, and links to impersonate legitimate entities, tricking users into revealing sensitive information such as passwords, bank details, or personal data. The increasing sophistication of these attacks has rendered many traditional defense mechanisms, such as spam filters and basic authentication systems, insufficient. This paper investigates the evolution of phishing techniques, evaluates current detection and prevention strategies, and explores the potential of artificial intelligence and machine learning in building more adaptive and intelligent anti-phishing systems. The goal is to enhance user awareness and strengthen overall cybersecurity resilience in the digital era.

Keywords: Phishing Attacks, Cybersecurity, Digital Communication, Identity Theft, Data Breach, Artificial Intelligence, Machine Learning, Threat Detection, Online Security, User Awareness

Data-Driven Civic Accountability: A Real-Time, Location-Based Citizen Reporting and Engagement Platform

Author(s):

Drishty Ahlawat

Email: Drishtyahlawat@gmail.com

ABSTRACT

Local communities and municipal corporations worldwide are often plagued by a significant disconnect, leading to widespread and persistent civic issues such as sanitation problems, infrastructure decay, and a lack of governmental responsiveness. Current feedback mechanisms are frequently inefficient, non-transparent, and fail to empower citizens, resulting in a culture of apathy and unresolved challenges. This paper presents a novel approach to bridging this gap through the development of a real-time, data-driven mobile application designed to foster civic accountability and promote collaborative community action. Our proposed methodology centers on a multi-faceted platform that leverages real-time data ingestion and advanced geospatial analytics

Keywords: Data Science, Big Data Analytics, Civic Engagement, Real-Time Reporting, Community Action, Geospatial Analytics, Transparency, Accountability, Urban Governance, Citizen Participation.

Few-Shot Rare Disease Detection via Adversarial Synthesis and Diagnostic Reasoning

Author(s):

Sakshi Chauhan , Preekshit Saklani

Email: chauhansakshi7891@gmail.com

ABSTRACT

The advancement of accurate deep learning models for medical diagnostics is critically by the pronounced scarcity of annotated data, particularly for rare diseases where patient instances are exceptionally uncommon. The conventional process of expert annotation constitutes a slow and costly bottleneck, leaving numerous rare conditions without effective automated screening. This research introduces an innovative, multi-stage framework that not only utilizes Generative Adversarial Networks (GANs) for high-fidelity data synthesis but also integrates a reasoning module to emulate clinical diagnostic workflows. This approach facilitates the training of highly accurate models from minimal data and provides actionable recommendations for subsequent clinical evaluation.

Keywords: Deep Learning, Machine Learning, Generative Adversarial Networks (GANs),Medical Imaging, Few-Shot Learning, Anomaly Detection, Clinical Decision Support, Diagnostic Reasoning, Vision Transformer (ViT), Medical Knowledge Graph, Explainable AI(XAI), Multi-Modal Diagnosis, Smart Healthcare.

DEEP THINKERS

Authors(s):

S.Deepika,N.Darshini Artificial Intelligence and Machine Learning Kings College Of Engineering

Email: deepika1032007@gmail.com

ABSTRACT

Plastic pollution poses a severe threat to marine and coastal ecosystems, particularly in regions with high tourism and fishing activity. Curent recyding methods are limited by heay logistics, power dependency, and lack of localized infrastructure. This study poposes a compact, solarpowered, IoTenabled recycling system designed for deployment near beaches, ports, and backwaters. The system identifies plastic type, monitors fill levels in ral time, and onverts collected waste into useful by-products such as bricks and tiles for local use. A case study of Indian oastal regions, incuding Marina Beach, Mumbai s Coastline, and Kerala backwaters, highlights the urgent need for such solutions, as these areas face large scale plstic accumulation and marine biodiversty loss. The proposed system aligns with several UN Sustairable Development Goals (SIDCs), incuding clean watcr, sustainable consunption, and life below watar, while offering continuous opaation with minimal manpower.

Keywords: Plastic Pollution, Marine Ecosystems, IoT-enabled Recycling, Solar-powered System, Sustainable Development, Waste Management, Renewable Energy, Smart Monitoring, Coastal Regions, Environmental Conservation

Artificial Intelligence in Daily Life

Author(s):

Palak Jindal

Email: Palaktheunknown@gmail.com

ABSTRACT

Artificial Intelligence (AI) has emerged as a transformative force in modern society, influencing diverse sectors such as healthcare, education, transportation, finance, and entertainment. By enabling machines to mimic human intelligence, AI enhances productivity, streamlines complex processes, and facilitates smarter decision-making. Its ability to analyze vast amounts of data has led to innovations in personalized recommendations, virtual assistants, medical diagnostics, and autonomous systems. However, despite its numerous advantages, AI also presents challenges related to ethics, privacy, and employment. This paper examines the wide-ranging applications of AI, its potential benefits, associated limitations, and the promising future it holds in shaping everyday human life.

Keywords: Artificial Intelligence, Machine Learning, Automation, Smart Devices, AI Applications.

Adaptive Deep Learning Framework for Real-time IoT Data Analytics in Smart Cities

Author(s):

Shreyas Mishra Ist year CSE, UPSIFS

Lucknow,MHA, Govt of India Lucknow, Uttar Pradesh

Email: hosnnasruti0015@gmail.com

ABSTRACT

The exponential growth of IoT devices in smart cities results in massive data generation, posing challenges for real-time analytics and decision-making. Existing data processing frameworks struggle with scalability, latency, and energy efficiency under dynamic network conditions. We propose a novel adaptive deep learning architecture, SmartSense, integrating multi-layered neural networks with edge computing for real-time data analytics. Experimental evaluation across simulated city-scale IoT deployments demonstrates a 23% reduction in latency, 17% energy savings, and a 12% improvement in anomaly detection accuracy over current state-of-the-art methods. Our approach provides a scalable, robust solution that scales linearly to 50,000+ devices, paving the way for responsive urban management.

Keywords: Internet of Things (IoT), Smart Cities, Edge Computing, Deep Learning, Real-time Analytics, Scalability, Latency Reduction, Energy Efficiency, Anomaly Detection, Urban Management

Agentic AI for Autonomous Literature Survey and Research Assistance

Author(s):

Bharathi.S , Department of Information Technology,
Hindustan University, Chennai

Email: 23cu0310052@student.hindustanuniv.ac.in

ABSTRACT

The exponential growth of scientific literature poses a significant challenge for researchers who must conduct comprehensive literature reviews, extract relevant information, and plan experiments efficiently. Existing AI tools primarily function aspassive aids, lacking autonomy, adaptive planning, and long-term memory. Thispaper presents an Agentic AI system designed as an autonomous, intelligent collaborator to streamline and enhance the research process. The system addresses the critical need for a unified platform that integrates goal-oriented planning, adaptive decision-making, and memory retention to assist researchers across disciplines.

Keywords: Agentic AI ,Autonomous research assistant, Literature survey automation, Large language models LLMs, GPT-4 integration, Research collaboration ,Task planning agents ,Memory retention ,Semantic analysis, Paper summarization, Experiment planning ,Adaptive decision-making.

EGS PILLAY 30

ENGINEERING COLLEGE, NAGAPATTINAM

(AUTONOMOUS)

DEPARTMENT OF INFORMATION TECHNOLOGY

EDITORIAL TEAM

Ms. S. Soundharya , AP/IT

Staff Coordinator

K . Kishaliny D. Gopika

Student Coordinators

K. Sudharshan S. Selvabarathi

Student Coordinators