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St. JOSEPH'S COLLEGE OF ENGINEERING

(An Autonomous Institution)

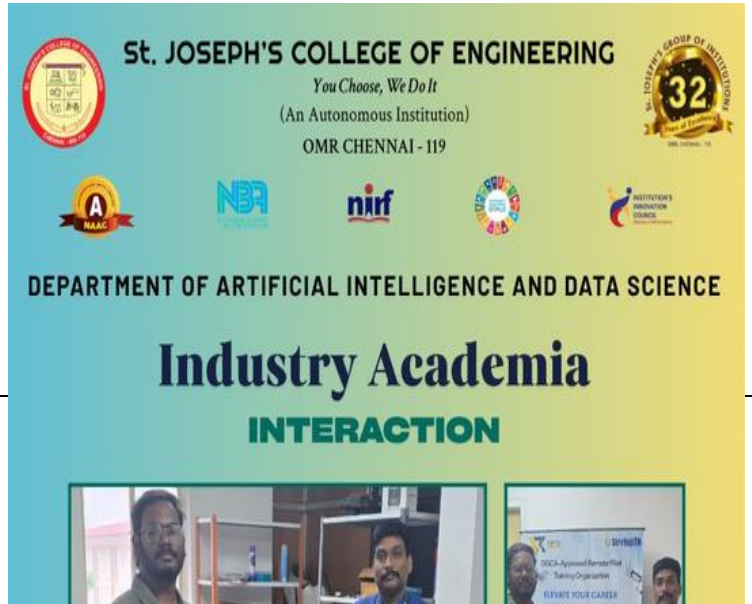
St. Joseph's Group of Institutions

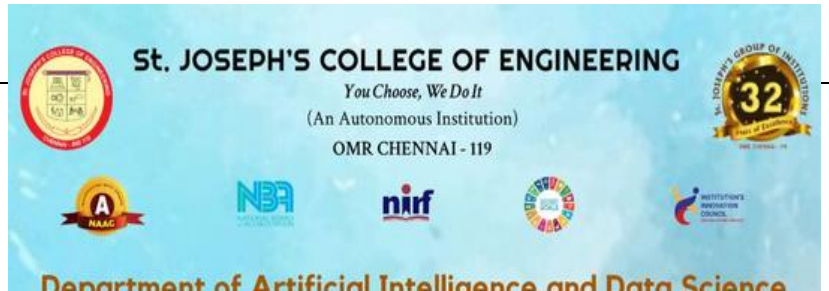
OMR, CHENNAI - 119

NOVEMBER 2025

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

S.No.	Title of the Events and Photographs	Details of the Event
1.	**COLLABARATIVE QUALITY INITIATIVES WITH OTHER INSTITUTIONS** 	*The Department of Artificial Intelligence and Data Science at St. Joseph's College of Engineering signed a Memorandum of Understanding with Vayuratha on 21 November 2025. This collaboration aims to promote advancements in UAV technology and create meaningful opportunities for*

		*students in research, innovation, and industry exposure. The MoU marks a significant step toward integrating cutting-edge drone solutions with academic learning, offering students hands-on experience and access to expert guidance from the industry. The ceremony highlighted the institution's commitment to fostering partnerships that enhance student competencies and support emerging technological domains.*



The Department of Artificial Intelligence and Data Science at St. Joseph's College of Engineering organized an Industry–Academia Interaction on 11th November 2025. Mr. Vinodh Kumar K, Assistant Professor (ADS), visited Vayuratha, a leading UAV manufacturer, service provider, and DGCA-approved training organization. During the visit, he interacted with Mr. Mohan Rishikesh M, Founder and CEO of Vayuratha, discussing various possibilities for strengthening collaboration between academia and the drone industry.

		The Department of Artificial Intelligence and Data Science at St. Joseph's College of Engineering organized an Industry–Academia Interaction on 11th November 2025. Mr. Vinodh Kumar K, Assistant Professor (ADS), visited InGage Technologies Pvt. Ltd., a Chennai-based company specializing in immersive technology solutions. During the visit, he interacted with Mr. K. Sriharsha, Vice President of InGage Technologies, discussing advancements in Augmented Reality (AR) and Virtual Reality (VR) for training, product visualization, maintenance, and prototyping.

2.	**INDUSTRIAL VISIT**	-
3.	**GUEST LECTURE**	-
4.	**ADS CLUB ACTIVITY** 	*The Department of Artificial Intelligence and Data Science, in collaboration with the Data Analytics Club (DAC), organized an insightful session titled "From Idea to Innovation: A Complete Guide on How to File a Patent." The event featured Kiruthik Kumar J and Mohammed Naazil A A from IV ADS as the speakers, who provided a clear and practical understanding of the patent filing process. The session, exclusively arranged for fourth-year students, aimed to enhance their awareness of innovation, intellectual property, and the steps involved in protecting creative ideas. Held on 26th November 2025 at the MBA Conference Hall, the event served as a valuable learning opportunity for students aspiring to turn their innovations into impactful contributions.*

		
5.	**FDP/WORKSHOP/FDP/CONFERENCE/HACKATHON (ATTENDED /ORGANIZED)** 	*St. Joseph's College of Engineering, OMR Chennai, through its Department of Artificial Intelligence and Data Science, conducted a school workshop at Lydia Matric Hr. Sec School, Selaiyur, titled "A Beginner's Introduction to Artificial Intelligence." The session aimed to introduce fundamental AI concepts to school students by using simple explanations, demonstrations, and relatable real-life examples. The workshop was conducted by*

		Ms. J. C. Divya and Ms. B. Arunmozhikalancheiam, Assistant Professors from the department, whose interactive and student-friendly approach made the session highly engaging. Held on 24-11-2025, the event formed part of the department's outreach efforts to promote technical awareness among young learners.
6.	**SYMPOSIUM**	-
7.	**STTP**	-
8.	**VALUE ADDED COURSES**	-
9.	**STUDENT ACHIEVEMENTS/COMPETITION ATTENDED BY STUDENTS** 	*Dinesh Kumar R a III year student from department of Artificial Intelligence and Data Science at St. Joseph's College of Engineering has successfully completed the requirements for the prestigious Microsoft Certified: Azure AI Engineer Associate*

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :11/09/2025

(21) Application No.202541086315 A
(43) Publication Date : 31/10/2025

(54) Title of the invention : ENSEMBLE FEATURE EXTRACTION MODEL WITH OPTIMAL KERNELIZED CLUSTERING ALGORITHM FOR IDENTIFYING THE CANCER FROM CERVICAL HISTOPATHOLOGY IMAGES

(51) International classification :G06T0007000000, A61B0001303000, G16H0050200000, A61B0005000000, G06N0003045000
(31) Priority Document No :NA
(32) Priority Date :NA
(33) Name of priority country :NA
(86) International Application No :NA
Filing Date :NA
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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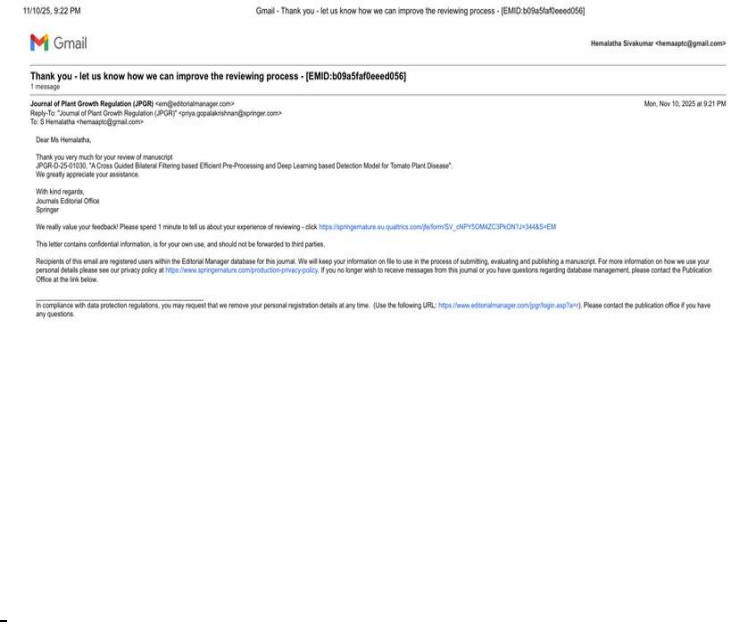
(57) Abstract :
Abstract: Cervical cancer remains one of the most significant causes ofmo11ality among women, ranking thind after breast and lung cancers, and early detection is essential for improving recovery rates and preventing metastasis to vital organs such as the hi adder, liver, and lungs. Conventional diagnostic methods like Pap smear and colposcopy often depend on expert interpretation and are subject to inter-observer variability, which may reduce accuracy. To overcome these challenges, this study introduces an Ensemble Feature Extraction Model integrated with an Optimal Kernelized Fuzzy C-Means (OKFCFI) clustering algorithm for efficient classification of cervical cancer from histopathological images. The framework begins with preprocessing using adaptive median filtering and Macenko-stain normalization, followed by data augmentation techniques to enhance the robustness of the dataset. Feature extraction is then performed through an ensemble of deep learning models, including ResNet, Rebtots, and Alex Net, ensuring that both low-level and high-level image features are effectively captured. These extracted features are clustered using the OKFCM algorithm, which efficiently handles non-linear data variations and optimizes classification into four classes: NILM, LSJL, HSIL, and SCC. The proposed method was validated using a dataset of962 cervical histopathological images, divided into training, validation, and testing subsets, and the experimental outcomes demonstrated superior performance compared to existing techniques. Specifically, the model achieved an accuracy of95.9%, precision of 97.9% , recall of95.9%, specificity of98.9% , and an AUC of93.9%, thereby confirming its effectiveness in distinguishing normal, pre-cancerous, and malignant cervical cells. This ensemble-based deep learning and kernelized clustering strategy not only enhances diagnostic precision but also reduces the cognitive load on pathologists, minimizes human error, and accelerates decision-making processes. The findings of this work highlight the potential of integrating artificial intelligence-driven feature extraction with optimized clustering methods for advancing computer-aided diagnosis of cervical cancer and contributing to improved clinical screening and early intervention practices .
No. of Pages : 7 No. of Claims : 7

certification. This accomplishment reflects his strong commitment to advancing his technical expertise in artificial intelligence and cloud-based solutions.

The Department of Artificial Intelligence and Data Science proudly announces the student publication of a patent titled "Ensemble Feature Extraction Model with Optimal Kernelized Clustering Algorithm for Identifying the Cancer from Cervical Histopathology Images." This patent has been officially published in The Patent Office Journal No. 44/2025 dated 31 October 2025. The invention was jointly developed by IV year student Sairam D R and Dr. R. Baghialaxmi from the ADS Department. Their work introduces an advanced AI-driven framework combining adaptive preprocessing, deep-learning-based feature extraction, and an optimized kernelized clustering.

10.	**STAFF NPTEL CERTIFICATION/ STAFF ACHIEVEMENTS**   	*The Department of Artificial Intelligence and Data Science proudly reports its NPTEL achievements for the current cycle. A total of 2 faculty members secured Gold + Elite Topper (Top 2%) certifications, demonstrating exceptional performance. Another 2 faculty members achieved Silver + Elite recognition in their respective courses. Additionally, 5 faculty members successfully earned Elite certifications across diverse technical subjects. The completed courses include areas such as Artificial Intelligence, Python for Data Science, Machine Learning, Large Language Models, and Business Analytics. These achievements reflect the department's strong commitment to continuous learning, professional growth, and academic excellence.* *Dr. Ramya Ravindran has been honoured with a Certificate of Appreciation for her contribution as a Reviewer at the 1st IEEE International Conference on Robotics and*



11/10/25, 9:22 PM Gmail - Thank you - let us know how we can improve the reviewing process - [EMID:b09a5faf0eeed056]

Gmail

Hemalatha Sivakumar <hemaaptc@gmail.com>

Thank you - let us know how we can improve the reviewing process - [EMID:b09a5faf0eeed056]

1 message

Journal of Plant Growth Regulation (JPGR) <em@editorialmanager.com> Mon, Nov 10, 2025 at 9:21 PM
Reply-To: "Journal of Plant Growth Regulation (JPGR)" <priya.gopalakrishnan@springer.com>
To: S Hemalatha <hemaaptc@gmail.com>

Dear Ms Hemalatha,

Thank you very much for your review of manuscript
JPGR-D-25-01030, "A Cross Guided Bilateral Filtering based Efficient Pre-Processing and Deep Learning based Detection Model for Tomato Plant Disease".
We greatly appreciate your assistance.

With kind regards,
Journals Editorial Office
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Mechatronics (ICRM 2025). The event was held at Amrita Vishwa Vidyapeetham, Amritapuri Campus, Kerala, on November 7–8, 2025. Her dedicated involvement in the review process played a significant role in upholding the academic quality of the conference. This recognition highlights her commitment to supporting research excellence and contributing to the global robotics and mechatronics community.

Dr. Hemalatha received an appreciation note from the Journal of Plant Growth Regulation (JPGR) for completing the peer review of the manuscript titled "A Cross Guided Bilateral Filtering based Efficient Pre-Processing and Deep Learning based Detection Model for Tomato Plant Disease." The editorial team expressed their gratitude for her timely and insightful review, acknowledging the value of her contribution to maintaining the journal's publication quality. They also invited her to share feedback on the review experience to help further enhance their editorial processes.

ACDSA ANTALYA BİLİM UNIVERSITY IEEE

Certificate of Reviewing

This is to certify that

Vijayalakshmi Janakiraman

has served as a Review Committee Member for the International Conference on Artificial Intelligence, Computer, Data Sciences and Applications (ACDSA 2026)

and reviewed 2 (two) papers successfully. We express our gratitude for the time, expertise, and dedication shown toward ensuring high-quality conference proceedings.

Josephine Bernadette Benjamin
University of Santo Tomas, Philippines
ACDSA 2026 Conference Chair
20 November 2025

https://www.acdsa.org - info@acdsa.org

AMRITA VISHWA VIDYAPEETHAM DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING HuT Labs Humanitarian Technology Labs IEEE Kerala Section IEEE Robotics & Automation Society

IEEE International Conference on ROBOTICS & MECHATRONICS

CERTIFICATE OF APPRECIATION

This certificate is proudly presented to

M. Nithya SathishKumar

in acknowledgment of their participation as

Dr Vijayalakshmi Janakiraman from Department of Artificial Intelligence and Data Secience has been acknowledged with a Certificate of Reviewing for her contribution as a Review Committee Member for the International Conference on Artificial Intelligence, Computer, Data Sciences and Applications (ACDSA 2026). She successfully reviewed two research papers, offering her expert evaluation to support the quality and integrity of the conference proceedings.

		Ms M. Nithya SathishKumar has been awarded a Certificate of Appreciation for her contribution as a Reviewer at the 1st IEEE International Conference on Robotics and Mechatronics (ICRM 2025). The conference took place at Amrita Vishwa Vidyapeetham, Amritapuri Campus, Kerala, on November 7–8, 2025. Her involvement in the review process played an important role in maintaining the academic quality and integrity of the conference's technical sessions.
11.	**INDUSTRIAL PROJECTS DONE BY STUDENTS**	**-**

12.	**STAFF CONFERENCE PRESENTATION and PATENT PUBLISHED**   	*Ms. Kavitha G, from the Department of Artificial Intelligence and Data Science at St. Joseph's College of Engineering, successfully presented her research paper titled "Masked Contrastive Pre-training for Few-Shot Medical Image Classification" at the prestigious 5th International Conference on Ubiquitous Computing and Intelligent Information Systems (ICUIS 2025). The conference, organized in association with the IEEE Computational Intelligence Society, served as an eminent platform for researchers to share innovative advancements in computing and intelligent systems.* *Deepa D received a Certificate of Presentation for presenting her paper titled "Generative AI-Enhanced Deep Learning for Glaucoma: A Framework for Early Detection and Progression Forecasting." The presentation took place at the 5th International Conference on Evolutionary*

2025 IEEE 3rd Global Conference on Wireless Computing and Networking (GCWCN)

Sinhgad Institutes

IEEE BOMBAY SECTION

22nd – 23rd Nov, 2025

Certificate

This is to certify that Dr./Prof./Mr./Ms. Senthil Kumar D has presented paper entitled Hybrid ANN–Fuzzy Logic Model for Intelligent Irrigation Control under Uncertain Weather and Soil Conditions in 2025 IEEE 3rd Global Conference on Wireless Computing and Networking (GCWCN) during 22nd to 23rd November 2025.

Dr. Dnyaneshwar S. Mantri
Generel chair, GCWCN2025

Dr. Sachin D. Babar
Principal, SIT Lonavala

Computing and Mobile Sustainable Networks (ICECMSN 2025). The event was organized by the Department of Information Technology, Hindusthan Institute of Technology, Coimbatore. The conference was held from 24–26 November 2025.

The Department of Artificial Intelligence and Data Science is proud to announce that Mr. Senthil Kumar D has successfully presented his research paper titled "Hybrid ANN–Fuzzy Logic Model for Intelligent Irrigation Control under Uncertain Weather and Soil Conditions" at the 2025 IEEE 3rd Global Conference on Wireless Computing and Networking (GCWCN), held from 22nd to 23rd November 2025. His contribution highlights an innovative approach that integrates Artificial Neural Networks and Fuzzy.

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CERTIFICATE OF PRESENTATION

This is to certify that

A Vijay

has sucessfully presented a paper entitled

Deep Learning based Classification of Copy Number Variations in Cervical Carcinoma using Array Comparative Genomic Hybridization Data

at the
5th International Conference on Soft Computing for Security Applications
(ICSCSA-2025) organised by Dhirajlal Gandhi College of Technology,
Salem, Tamilnadu on 4th-6th August 2025.

N. Amutha Priya
Session Chair

DR. R. SARAVANAN
Conference Chair

DR. A. SELVARAJ
Principal

Mr. Vijay from the Department of Artificial Intelligence and Data Science at St. Joseph's College of Engineering has successfully presented a research paper titled "Deep Learning-Based Classification of Copy Number Variations in Cervical Carcinoma Using Array Comparative Genomic Hybridization Data." The paper was presented at the 5th International Conference on Soft Computing for Security Applications (ICSCSA-2025) organized by Dhirajlal Gandhi College of Technology, Salem, held from 4th to 6th August 2025.

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :03/10/2025

(21) Application No.202541095313 A
(43) Publication Date : 31/10/2025

(54) Title of the invention : IIoT-Enabled Industrial Safety and Predictive Risk Management System Using Hybrid AI and Edge Intelligence

(51) International classification :C06N0003045000, C06Q0010063500, C06N0003080000, C06N0020000000, H04L0067120000
(31) Priority Document No :NA
(32) Priority Date :NA
(33) Name of priority country :NA
(86) International Application No :
Filing Date :01/01/1900
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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(57) Abstract :
The present invention relates to an advanced Industrial Internet of Things (IIoT)-enabled system for real-time industrial safety, hazard detection, and predictive risk management in manufacturing environments. The system collects and integrates heterogeneous data from smart sensors, wearable devices, machine controllers, vision-based monitoring units, digital twin models, and cyber-physical systems to capture comprehensive information on worker health, equipment status, and environmental conditions. The acquired data is processed using edge computing, signal fusion, adaptive feature extraction, and low-latency analytics to ensure accurate, real-time insights. A hybrid artificial intelligence framework incorporating deep neural networks, transformer-based anomaly detection, federated learning, reinforcement learning, and graph-based predictive models is employed to identify unsafe conditions, anticipate equipment failures, and optimize safety protocols. The system further integrates augmented/virtual reality (AR/VR) modules for immersive safety training, blockchain technology for secure and auditable incident logging, and 5G/6G connectivity for high-speed, low-latency industrial communications. The invention provides proactive risk assessment, automated hazard alerts for fire, gas leakage, or machinery malfunction, and intelligent decision support for regulatory compliance, worker well-being, and operational continuity, thereby enhancing safety, efficiency, and resilience in modern manufacturing.
No. of Pages : 6 No. of Claims : 5

Mr. K. Vinoth Kumar from the ADS department has successfully published a patent titled "IIoT-Enabled Industrial Safety and Predictive Risk Management System Using Hybrid AI and Edge Intelligence" in The Patent Office Journal No. 44/2025

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :22/10/2025

(21) Application No.202541101711 A
(43) Publication Date : 28/11/2025

(54) Title of the invention : MACHINE LEARNING–ENABLED 6G IOT SYSTEM FOR GREEN EV ECOSYSTEM AND REAL-TIME AIR QUALITY ANALYTICS

(51) International classification :C06N0020000000, C06N0003080000, G06Q0010063700, C06N0020200000, G01N0033000000
(31) Priority Document No :NA
(32) Priority Date :NA
(33) Name of priority country :NA
(86) International Application No :
Filing Date :01/01/1900
(87) International Publication No :NA
(61) Patent of Addition to Application Number :NA
Filing Date :NA
(62) Divisional to Application Number :NA
Filing Date :NA

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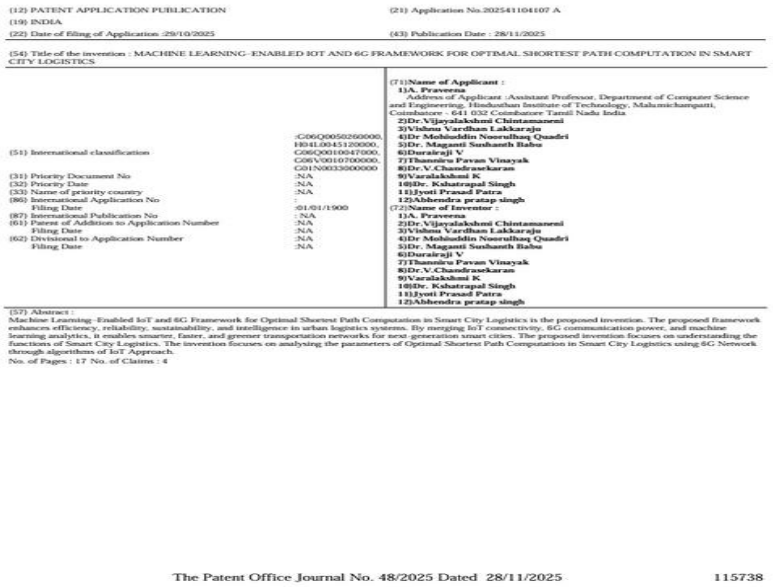
(57) Abstract :
Machine Learning–Enabled 6G IoT System for Green EV Ecosystem and Real-Time Air Quality Analytics is the proposed invention. Machine learning models are then trained for predictive analytics forecasting charging demand, optimizing grid load, and predicting pollution levels. Reinforcement learning and neural networks are applied to enhance decision-making for smart charging and route optimization. The system employs edge AI for real-time analytics and cloud computing for large-scale model training. The proposed invention focuses on understanding the functions of Real-Time Air Quality Analytics. The invention focuses on analyzing the parameters of 6G IoT System for Green EV Ecosystem using algorithms of Machine Learning Approach. Finally, results are visualized through dashboards to support eco-friendly decision-making for drivers, energy providers, and policymakers, thereby creating a sustainable, intelligent ecosystem that integrates clean mobility with environmental protection.
No. of Pages : 15 No. of Claims : 4

The Patent Office Journal No. 48/2025 Dated 28/11/2025 115255

dated 31 October 2025. Filed on 03/10/2025, this innovative work presents an advanced IIoT-based framework that enhances real-time industrial safety through smart sensors, machine condition monitoring, and cyber-physical systems.

Dr. Nisha A. S., from the Department of Artificial Intelligence and Data Science at St. Joseph's College of Engineering, has successfully published a patent titled "Machine Learning–Enabled 6G IoT System for Green EV Ecosystem and Real-Time Air Quality Analytics." This innovative patent presents an advanced system that integrates machine learning models with 6G-enabled IoT technologies to strengthen the Green Electric Vehicle (EV) ecosystem.



(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :29/10/2025

(21) Application No.202541104107 A
(43) Publication Date : 28/11/2025

(54) Title of the invention : MACHINE LEARNING–ENABLED IOT AND 6G FRAMEWORK FOR OPTIMAL SHORTEST PATH COMPUTATION IN SMART CITY LOGISTICS

(51) International classification :C06Q0050260000, H04L0045120000, C06Q0010047000, G06V0010700000, G01N0033600000
(31) Priority Document No :NA
(32) Priority Date :NA
(33) Name of priority country :NA
(86) International Application No : Filing Date :01/01/1900
(87) International Publication No :NA
(61) Patent of Addition to Application Number :NA Filing Date :NA
(62) Divisional to Application Number :NA Filing Date :NA

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(57) Abstract :
Machine Learning–Enabled IoT and 6G Framework for Optimal Shortest Path Computation in Smart City Logistics is the proposed invention. The proposed framework enhances efficiency, reliability, sustainability, and intelligence in urban logistics systems. By merging IoT connectivity, 6G communication power, and machine learning analytics, it enables smarter, faster, and greener transportation networks for next-generation smart cities. The proposed invention focuses on understanding the functions of Smart City Logistics. The invention focuses on analysing the parameters of Optimal Shortest Path Computation in Smart City Logistics using 6G Network through algorithms of IoT Approach.
No. of Pages : 17 No. of Claims : 4

(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :22/10/2025

(21) Application No.202541101841 A
(43) Publication Date : 28/11/2025

(54) Title of the invention : AI-ENABLED FACIAL EMOTION RECOGNITION PLATFORM FOR MONITORING STUDENT BEHAVIOR AND PERFORMANCE IN HIGHER EDUCATION

(51) International classification :G06V0040160000, G06Q0050200000, G10L0025630000, A61B0005160000, G06N0003080000
(31) Priority Document No :NA
(32) Priority Date :NA
(33) Name of priority country :NA
(86) International Application No : Filing Date :01/01/1900
(87) International Publication No : NA
(61) Patent of Addition to Application Number :NA Filing Date :NA
(62) Divisional to Application Number :NA Filing Date :NA

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7)Sunkari Rajasheker
8)Dr.Varun Gangje
9)K Syed Abthaheer
10)S.Yamunadevi
11)Dr Deepak Sundrani
12)Dr. Vidya Sagar S. D.

(57) Abstract :
AI-Enabled Facial Emotion Recognition Platform for Monitoring Student Behavior and Performance in Higher Education is the proposed invention. An AI-enabled facial emotion recognition platform is an advanced educational technology solution designed to analyze students' emotional states and behavioral patterns in real time. Using computer vision and deep learning algorithms, the system detects facial expressions captured through classroom cameras or webcams during online sessions. The proposed invention focuses on understanding the functions of Facial Emotion Recognition. The invention focuses on analyzing the parameters of Facial Emotion Recognition Platform for Monitoring Student Behavior and Performance in Higher Education using algorithms of AI Approach.
No. of Pages : 16 No. of Claims : 4

Mr. Durairaji V from the Department of Artificial Intelligence and Data Science has published a patent titled "Machine Learning–Enabled IoT and 6G Framework for Optimal Shortest Path Computation in Smart City Logistics." This patent, listed under the application number 202541101407 A and published in the Patent Office Journal on 28/11/2025, proposes an innovative framework that integrates IoT connectivity, 6G communication.

Mr. Sugin S. V. from the Department of Artificial Intelligence and Data Science at St. Joseph's College of Engineering has published a patent titled "AI-Enabled Facial Emotion Recognition Platform for Monitoring Student Behavior and

Intellectual Property Office

Certificate of Registration for a UK Design

Design number: 6479380

Grant date: 24 October 2025

Registration date: 13 October 2025

This is to certify that,

in pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of

Dr. Anand Kumar, Dhanabhavithra kaliyannan, Puneet Sapra, Shalini Kumari,

Mano Paul Pauliah David, Prabakaran Cinnusamy, Niranjanamurthy

Mudligiriyappa, Priya Umarajan, Amulya Mandhalagalli Puttaraju, Agilesh

Saravanan Ramamoorthi

in respect of the application of such design to:

Smart Irrigation and Fertilizer Control Device

International Design Classification:
Version: 15-2025
Class: 15 MACHINES, NOT ELSEWHERE SPECIFIED
Subclass: 03 AGRICULTURAL AND FORESTRY MACHINERY

Adam Williams
Comptroller-General of Patents, Designs and Trade Marks
Intellectual Property Office
The attention of the Proprietor(s) is drawn to the important notes overleaf.

Intellectual Property Office is an operating name of the Patent Office www.gov.uk/ipo

Performance in Higher Education." This patent proposes an advanced AI-driven educational technology solution designed to analyze students' emotional states and behavioral patterns in real time.

Ms. Dhanabhavithra from the ADS Department is proudly recognized as one of the authors of the newly published UK Design Patent titled "Smart Irrigation and Fertilizer Control Device." The design has been officially registered under Design Number 6479380, with the grant date on 24 October 2025. Issued under the Registered Designs Act 1949, this patent highlights the team's innovation in advancing smart

		agricultural solutions. Classified under Version 15-2025, Class 15 – Machines, Not Elsewhere Specified; Subclass 03 – Agricultural and Forestry Machinery, the registration marks a significant achievement, celebrating the creative contribution and technical expertise of Ms. Dhana Bavithra and her team.
13.	**FUNDED PROJECTS**	-
14.	**PUBLICATIONS(ONLY PUBLISHED) DETAILS** 	*The Department of Artificial Intelligence and Data Science proudly announces that Dr. Nisha A. S. has published a research article titled "Energy Optimization in Wireless Sensor Networks Using Augmented Distance-Direct Distributed Clustering Algorithm" in the esteemed Journal of the Chinese Institute of Engineers, a Taylor &*

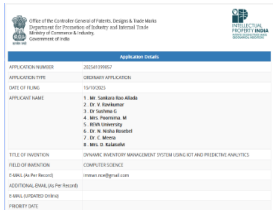
		Francis publication. Her work presents an enhanced clustering-based technique designed to significantly improve energy efficiency and extend the network lifetime of wireless sensor networks, contributing valuable advancements to IoT and smart monitoring applications.

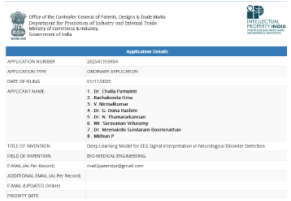
DEPARTMENT OF ARTIFICAL INTELLIGENCE AND MACHINE LEARNING

Sl. No.	Photographs Captured During Event	Corresponding remarks in regarding the status of activity execution
1.	**Dr. Raman C J** **IEEE Conference** 	**Title of the Paper** : Smart Vision-Based Posture and Emotion Monitoring System with Privacy Protection
2.	**Ms. Quba Jaslin C** **IEEE Conference** 	**Title of the Paper :** SDLC AutoPilot AI: Agentic Automation of Software Development Life Cycle

3.	**Ms. Umayal AR** **IEEE Conference**  	**Title of the Paper :** Eyesight AI: An Intelligent Deep Neural Network–Based Framework for Detection and Classification of Retinal Diseases through Fundus Image Analysis
4.	**Ms. Priyadharshini SP** **IEEE Conference**  	**Title of the Paper :** AI-Driven Trolley System with SMS Alerts for Seamless Customer Interaction
	Mr. Raja Mohamed N **IEEE Conference**	**Title of the Paper :** Automated Urine Color Analysis using MTCNN for Rapid and Non-Invasive UTI Detection

5.	 Certificate of Presentation This certificate is presented to Raja Mohamed N for the paper titled Automated Urine Color Analysis using MTCNN for Rapid and Non-Invasive UTI Detection presented at the 5th International Conference on Evolutionary Computing and Mobile Sustainable Networks (ICECMSN 2025) organized by Department of Information Technology, Hindusthan Institute of Technology, Coimbatore, India on 24-26 November 2025. Your contribution and active involvement have made this event a success. Session Chair · Dr. M. Duraipandian, Conference Chair · Dr. C. Nateesan, Principal  Certificate of Presentation This certificate is presented to Raja Mohamed N for the paper titled Securing Industrial IoT Environments: A Framework for Intelligent Threat Detection and Response presented at the 5th International Conference on Evolutionary Computing and Mobile Sustainable Networks (ICECMSN 2025) organized by Department of Information Technology, Hindusthan Institute of Technology, Coimbatore, India on 24-26 November 2025. Your contribution and active involvement have made this event a success. Session Chair · Dr. M. Duraipandian, Conference Chair · Dr. C. Nateesan, Principal	**Title of the Paper :** Securing Industrial IoT Environments: A Framework for Intelligent Threat Detection and Response
6.	**Ms. Adlin Layola JA** **IEEE Conference**  Certificate of Presentation This certificate is presented to J A Adlin Layola for the paper titled Data Analysis and Decision Making: Foundations, Challenges, and Future Directions presented at the 5th International Conference on Evolutionary Computing and Mobile Sustainable Networks (ICECMSN 2025) organized by Department of Information Technology, Hindusthan Institute of Technology, Coimbatore, India on 24-26 November 2025. Your contribution and active involvement have made this event a success. Session Chair · Dr. M. Duraipandian, Conference Chair · Dr. C. Nateesan, Principal  Certificate of Presentation This certificate is presented to J A Adlin Layola for the paper titled Big Data, Cloud Computing, and Internet-Enabled Infrastructures for Sustainable Development presented at the 5th International Conference on Evolutionary Computing and Mobile Sustainable Networks (ICECMSN 2025) organized by Department of Information Technology, Hindusthan Institute of Technology, Coimbatore, India on 24-26 November 2025. Your contribution and active involvement have made this event a success. Session Chair · Dr. M. Duraipandian, Conference Chair · Dr. C. Nateesan, Principal	**Title of the Paper :** Data Analysis and Decision Making: Foundations, Challenges and Future Directions **Title of the Paper :** Big Data, Cloud Computing and Internet-Enabled Infrastructures for Sustainable Development

7.	**Ms. Poornima M** **Published Patent** 	**Title of Innovation :** Dynamic Inventory Management System using IoT and Predictive Analysis
8.	**Ms. Priyadharshini SP** **Published Patent** 	**Title of Innovation :** System and Method for Neural Network–Based Compression of High-Fidelity Audio for Efficient Transmission
	Ms. Kiruba Wesley **Published Patent**	

9.		**Title of Innovation :** Machine Learning for Business Forecasting and Strategic Planning
10.	**Ms. Quba Jaslin C** **Published Patent** 	**Title of Innovation :** AI-Enhanced Predictive Maintenance System for Industrial IoT Using Hybrid Time-Series Modeling
11.	**Mr. Nirmalkumar V** **Published Patent** 	**Title of Innovation :** Deep Learning Model for EEG Signal Interpretation in Neurological Disorder Detection
	Ms. Deepa R **Published Patent**	

12.

Title of Innovation : Machine Learning Techniques in the Defense Sector for Intrusion Detection

13.

Certificates received by the Faculty

<u>NPTEL Online Certification & NPTEL - AICTE FDP by the faculty</u>

S.No.	Name of the Course	Name of the Staff	Secured Grade	Duration
1.	Ethical Hacking	Dr. Raman C J	Elite + Silver (Topper 5%)	12 week
2.	Ethical Hacking	Dr. Manikandan G	Elite	12 week
3.	Mobile Virtual Reality and Artificial Intelligence	Ms. Poornima M	Elite + Silver (Topper 5%)	4 week
4.	Mobile Virtual Reality and Artificial Intelligence	Ms. Priyadharshini SP	Elite + Silver (Topper 5%)	4 week

DEPARTMENT OF CHEMICAL ENGINEERING

S.No.	Title of the Events and Photographs	Details of the Event
1.	**PLACEMENT**	Fourteen students from the **2022–2026** batch secured core placements with **Hubert Enviro Care Systems (HECS**). The selection process—equal parts technical discernment and quiet determination—led to internship-integrated offers that provide both industry exposure and a professional launch pad. Each student has been offered a six-month internship with a monthly **stipend of ₹12,000**, followed by absorption as Graduate Engineer Trainees with **a CTC of ₹2.5 LPA**, contingent on performance. The opportunity places them at the intersection of environmental engineering, analytical practice, and field-based problem solving—an arena where classroom principles finally breathe and behave in the real world.  **Harin S. S.** of the **2022–2026** batch secures a placement offer from **JSW**, one of India's leading industrial conglomerates. His selection, with a **CTC of ₹5.5 LPA**, reflects the department's steady commitment to cultivating industry-ready engineering talent.

Mr. Hari Balaji of IV Year Chemical Engineering has been shortlisted by **MEINE Electricals**, marking a notable achievement for the department. As part of his career progression, he has commenced his internship with the company from December. Upon successful completion, he is expected to receive **a package of 6 LPA**, adding promise to his professional journey.

2.	**STUDENT'S ACHIEVEMENT**	**Team Fluid Fusion** has been shortlisted for the **All India Smart India Hackathon (SIH) 2025**. This achievement places the team among the country's most promising problem-solvers poised to compete on a national platform. The selected team includes **Mr. Sam Daniel and Mr. Lewyn (III Year Chemical), Ms. Sindhukavi and Mr. Abhijith Kanna (II Year Chemical), and Mr. Junaid Abdul Alim and Ms. Jasmine Ramola (III CSE).** Their journey has been guided by **Dr. S. Vinod Kumar, Associate Professor,** and Department of Chemical Engineering, whose mentorship added both direction and momentum to their innovative efforts. The national finals of SIH 2025 are scheduled for **8 and 9 December 2025** at **Rajalakshmi Engineering College, Chennai**. As the team prepares to present their solution before distinguished evaluators, the department extends its warmest wishes for their success. Their selection stands as a bright marker of the department's growing culture of innovation and interdisciplinary collaboration—an encouraging sign for future achievers.   The outstanding performance of its **IV Year (2022–2026 Batch)** students in the **NPTEL examinations**. This year's cohort has brought remarkable

		acclaim to the department through their dedication, discipline, and consistent academic excellence. **Ms. Lakeisha S has secured a Gold Medal**, earning distinction at the national level and adding a significant accomplishment to the department's academic record. Alongside her achievement, several students have earned **Silver Medals**, reflecting their strong grasp of course content and commitment to continuous learning. Their success highlights the department's sustained focus on academic rigor and skill development. Adding further merit, **Mr. Santhosh KJ** has successfully completed two NPTEL courses— **• Aspen Plus® Simulation Software – A Basic Course for Beginners (Elite Certification)** **• Matlab-Based Programming Lab in Chemical Engineering (Elite Certification)**  The department congratulates all achievers and encourages students to continue exploring advanced certifications that enhance their academic and professional

		pathways. The accomplishments of this batch stand as a testament to the department's commitment to nurturing capable, industry ready graduates.  **Priyadharshini A- III Year Chemical** Completed the course **"Chemical Process Safety**" with an **impressive 81**%. Kaushikka J- II Year Chemical Completed "Chemical Process Safety" with a **commendable 80%. Vaishali R- III Year Chemical** Successfully completed "Psychology of Everyday" **with 77%. Lewyn D- III Year Chemical Secured 78%** in the NPTEL course "Psychology of Everyday.

		
3.	**1st INTERNATIONAL CONFERENCE ON SUSTAINABLE DEVELOPMENT GOALS AND ENVIRONMENTAL SUSTAINABILITY (ORGANIZED)**	Hosted the **1st International Conference on Sustainable Development Goals and Environmental Sustainability (ICSDGES-2025)** on **4th & 5th November 2025 at the Central Library Audio-Visual Hall** in Hybrid Mode. Organized in association with **IIChE and IEI**, the conference opened its doors to academicians, researchers, industrial experts, and young innovators from across the country. This landmark edition received an impressive **70 research abstracts**, representing **35 colleges across 5 states**—a testimony to the growing national commitment to sustainable science, environmental stewardship, and the UN-SDG mission. Each abstract carried its own compass: exploring green technologies, clean manufacturing, climate studies, renewable energy, water and waste management, sustainable materials, and the future of carbon-neutral processes. The conference was graced by eminent speakers from premier institutions and industries, including experts from **IIT Madras, NIT Andhra Pradesh, Kurita India, ISRO, Taylor's University (Malaysia), and Arizona State University (USA).** Their perspectives stitched together a tapestry of global and local insights, guiding participants toward responsible innovation and environmentally conscious engineering.

		
4.	**INDUSTRY VISIT** **(Industry-Academia Collaboration)**	On 25.11.2025, **Dr. V. Renuka, Professor, and Dr. S. Sujatha, Assistant Professor** from the Department of Chemical Engineering, visited **Vishnu Chemicals Ltd., Srikalahasthi** as part of the department's continuous efforts to strengthen industry– academia partnerships. During the visit, they met **Mr. Rushendra Reddy, HR Manager**, and held a detailed discussion on creating structured opportunities for students, including internships with stipend, industry-based project work, and future placement openings.  On 21.11.2025, **Dr. S. Vinod Kumar and Dr. T. Amudha** from the Department of Chemical Engineering visited **Sim Infosystem** and met the

		CEO, Mr. Raman, to strengthen academic–industry collaboration. The meeting focused on enhancing student exposure to **ProSim** software, facilitating internship and placement opportunities, and extending technical support for the department's SIH team, particularly in software-based training and project development. This interaction is expected to open new avenues for skill development and experiential learning for Chemical Engineering students. 

5.	**STAFF ACHIEVEMENT**	**Dr. S. Vinod Kumar, Associate Professor**, has contributed a book chapter titled "**Optimizing Traffic Systems with AI-Based Statistical Models**" to the international volume AI-Based Statistical Modeling for Road Traffic Surveillance and Monitoring, published in November 2025 by Bentham Books  **Dr. N. Venkatesh, Head of the Department of Chemical Engineering**, has earned an Elite certification from NPTEL for successfully completing the course "**Hydrogen Energy: Production, Storage, Transportation and Safety**." **He secured an impressive 90%** consolidated score, placing him in the Top 1% of 579 certified candidates across the country. Dr. N. Venkatesh, **Head of the Department of Chemical Engineering**, has earned an Elite certification from NPTEL for successfully completing the course "**Dairy and Food Process and Products Technology**." He achieved a

		consolidated score of **79%, placing him in the Top 5% among** 1,688 certified candidates nationwide.   **Dr. T. Amudha, Assistant Professor** in the Department of Chemical Engineering, has successfully completed the NPTEL course "**Matlab-Based Programming Lab in Chemical Engineering"** , earning an Elite certification with a consolidated **score of 69%.**

		 In the quiet hum of academic pursuit, **Dr. T. Amudha, Assistant Professor**, has continued to expand her professional horizons through active participation in national-level training and technical events. She successfully completed the **MATLAB EXPO 2025**, an international knowledge forum conducted online on **November 12–13, 2025**. Her participation added to the department's growing engagement with advanced computational and simulation platforms. Further enriching her technical repertoire, she also took part in the Virtual Training on **"Industrial Valves**" , organized by the Centre for Energy Storage Technologies (CEST), Anna University, on 18th October 2025. This program strengthened her exposure to industrial systems and current technological practices.

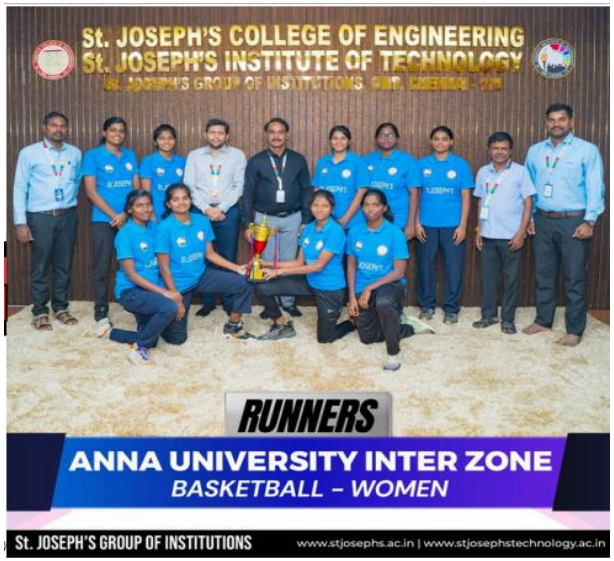
Dr. N. Venkatesh, Head of the Department of Chemical Engineering, St. Joseph's College of Engineering, has successfully completed the AICTE Training and Learning (ATAL) **Academy Faculty Development Program on "Innovation and Entrepreneurship for India's Sustainable Future, "** organized by the National Institute of Technology (NIT) Patna.

Dr. S. Vinod Kumar, Associate Professor, has been listed as a co-inventor in a recently published Indian patent titled "**Explainable Deep Learning System for**

		Medical Diagnosis Using Visual Heatmaps." The patent (Application No. 202541109255 A) was officially published in The Patent Office Journal on 28 November 2025. 

6.	**SPORTS**	**V. V. Sharan Deepak of III Year Chemical Engineering** proudly represented the St. Joseph's College of Engineering swimming team in the **Anna University Inter-Zone Aquatics Competition**. In a display of endurance and teamwork, he clinched three **Silver medals, contributing significantly to the college's podium finishes. He secured:** **Silver – 4×100 m Freestyle Relay** **Silver – 4×100 m Medley Relay** **Silver – 4×200 m Freestyle Relay** His performance reflects the department's growing presence in sports, where academic grit meets athletic spirit 

Ms. Janani, III Year student who represented St. Joseph's College of Engineering in the **Anna University Inter Zone Basketball Tournament** (Women). With determination that echoed like a steady drum on the court, she played a key role in steering the college team to an impressive Runners-up finish.



congratulates Mr. Vivesh, IV Year, for receiving a certificate at the நாட்டுப்புறக் கலை பயிற்சி சான்றிதழ் வழங்கும் விழா, organised by the கலை பண்பாட்டுத் துறை (Department of Art and Culture).

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Sl. No.	Event with Photo	Description
1	State-Level Technical Quiz Competition	**Date** : 8.11.2025 **Venue** : **Conference hall** **Nature of Event** : State-Level Technical Quiz Competition Participants : 426 School students Objective : • To promote technical knowledge and innovation among students by testing their understanding of core and emerging technologies. • To identify and encourage talented individuals who demonstrate strong analytical and problem-solving skills at the state level. • To foster healthy competition and collaboration, providing students with exposure, confidence, and a platform for academic growth. Outcome : • Enhanced technical competence as participants gain deeper understanding and improved recall of key concepts and emerging technologies. • Identification of skilled students who can represent the state in higher-level competitions and pursue advanced technical opportunities. • Improved confidence, communication, and problem-solving
		

		skills through exposure to a competitive and collaborative environment.
2	Oracle APEX AI Days 2025	

Date : 15.11.2025
Venue : Offline
Nature of Event : Placement Talk
Participants : IV & III Year students

Objective :

- To enable developers and organizations to understand how low-code development and generative AI can accelerate application building and modernization.
- Allowing participants to explore APEX AI features, build intelligent applications, and adopt best practices through workshops, demos, and expert-led sessions.

Outcome :

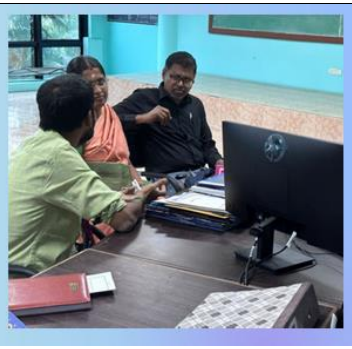
- **Enhanced developer capability**, as participants gain practical skills in building intelligent, AI-powered applications using Oracle APEX and its new AI integrations.
- **Accelerated adoption of low-code and AI solutions**, with organizations and developers better equipped to modernize workflows and deliver smarter digital applications.
- **Strengthened community collaboration**, resulting in knowledge sharing, networking, and the creation of innovative ideas and best practices within the Oracle APEX ecosystem.

DEPARTMENT OF MECHANICAL ENGINEERING

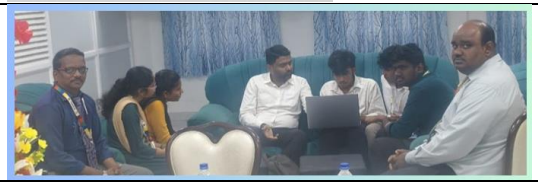
Sl No	Name of the Activity	Remarks
1	**Faculty Acheivement** ➢ Dr. K. Arun, Associate Professor - Mechanical Engineering attended ATAL Online Faculty Development Programme on "Innovation and Entrepreneurship for India's Sustainable Future" conducted by National Institute of Technology, Patna from 10th November 2025 to 15th November 2025. ➢ Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering has published a Scopus Indexed Book Chapter entitled "Empowering Learners and Educators: The Transformative Role of Conversational AI in Personalized Education and Student Support", IGI Global Scientific Publishing on 12th November 2025. ➢ Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering has Successfully Published an Indian Utility Patent titled "Low-Cost Mechanical Water Pump with Enhanced Priming Efficiency" on 14th November 2025. Application No: 202541095276 A. ➢ Mr. G. Ashwin Prabhu, Assistant Professor, Department of Mechanical Engineering, has been invited to serve as a "Section Editor in the Editorial Board" for the "Journal of Polymer & Composite", an esteemed journal indexed in the Web of Science (ESCI) with an Impact Factor of 6.005 on 13th November 2025. ➢ Mr. N. Sathishkumar, Assistant Professor, Department of Mechanical Engineering, acted as a reviewer for the manuscript “Engineering Intervertebral Disc Replacements Using 3D-Printed Open Gyroid Architectures” submitted to “Biomedical Materials” Journal. (Anna University Annexure I, SCI & Scopus Indexed Q2 Journal with Impact Factor 3.7). ➢ Mr. N. Sathishkumar, Assistant Professor, Department of Mechanical Engineering, acted as a reviewer for the manuscript “Multiscale Analysis on the Effect of Laser Preheating on the Fabrication of Micro-Textured Surface of Titanium Alloy by Laser Ultrasonic Vibration Assisted Cutting” submitted to “Engineering Research Express” Journal. (ESCI & Scopus indexed Q2 Journal with Impact Factor 1.6). ➢ Mr. N. Sathishkumar, Assistant Professor, Department of Mechanical Engineering, acted as a reviewer for the manuscript “Review on	

	Graphitization Processing Technologies of Carbon Fibers" submitted to "Journal of the Chinese Institute of Engineers". (Anna University Annexure I, SCIE & Scopus indexed Q2 Journal with Impact Factor 1.144). ➢ Mr. N. Sathishkumar, Assistant Professor, Department of Mechanical Engineering, acted as a reviewer for the manuscript "Uncertainty Analysis of the Dynamic Properties of the Binding Surface" submitted to "Journal of Mechanical Science and Technology". (Anna University Annexure I, SCIE & Scopus indexed Q2 Journal with Impact Factor 1.7) ➢ Mr.K. Gnanasekaran ,Assistant Professor from the department of mechanical engineering published a PATENT titled Design and Fabrication of a Solar Air Heater with Modified Triangular Elements for Enhanced Heat Transfer Performance.. Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering has Successfully Published an Indian Utility Patent titled "Intelligent Machining Process Optimization for Polymer Composites using AI and Machine Learning" on 01/11/2025. Application No: 202541077332 A ➢ Dr.Arunkumar N and Subramanian M from Department of Mechanical Engineering has published a paper titled "Machine Learning Enhanced Computational Fluid Dynamics for Airfoil Aerodynamic Characterisation" in *Journal of Institution of Engineers:Series C, Springer Publications. DOI : 10.1007/s40032-025-01266-w. ➢ Mr. Subramanian M from Department of Mechanical Engineering has successfully participated and completed AICTE Training and Learning (ATAL) Academy Faculty Development Program on Six days FDP on "Exploratory Data Analytics (EDA) - Tools and Techniques at Velammal College of Engineering and Technology from 24/11/2025 to 29/11/2025 ➢ Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering Published an article titled "On Strong Metric Dimension of the Methane Molecular Graph Using Resolving Sets", in "Journal of Physics: Conference Series" a Scopus Indexed Journal on 28th November 2025. ➢ Dr. K. Arun, Associate Professor - Mechanical Engineering attended ATAL Online Faculty Development Programme on "Design Thinking and Innovation" conducted by SaiBalaji International Institute of Management Sciences, Pune from 24th November 2025 to 29th November 2025. ➢ Mr. T. Balasubramanian, Assistant Professor- Department of Mechanical Engineering was been appointed has the reviewer for International Conference on Robotics and Mechatronics (ICRM) 2025, held at Amrita Vishwa Vidyapeetham, Amritapuri Campus on November 7 and 8,

	2025 ➢ Mr. G. Ashwin Prabhu, Assistant Professor, Department of Mechanical Engineering, have received a Reviewer Certificate from the "Journal of Polymer & Composite", a Web of Science (ESCI) Indexed Journal on 28th October 2025, in recognition of his contribution to the peer review process. Dr. K. ARUN, Associate Professor, Department of Mechanical Engineering, has successfully participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on Next-Generation Nanomaterials for a Sustainable, Self-Reliant India at RATHINAM COLLEGE OF ARTS AND SCIENCE from 27/10/2025 to 01/11/2025. ➢ Dr. M. Ganesh, Assistant Professor, Department of Mechanical Engineering, acted as a reviewer for an article titled "Synergistic Influence of Cryogenic Treatment and Surface Texturing on Tungsten Carbide Tools in Machining of Inconel 718" in Engineering Research Express (ESCI,Q2 Journal). ➢ Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering Published an article titled "Effect of basalt and kenaf fiber hybridization on the physical, mechanical, and thermal properties of polymer composites", in "Materials Testing - De Gruyter" a SCIE Indexed & Anna University Annexure 1, Q2 Journal with an impact factor of 3.5 on 8th November 2025. Mr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering has published a paper entitled "AI-Powered Predictive Modeling of Heat Energy Consumption in Smart Buildings for Enhanced Efficiency", IEEE Xplore Scopus Indexed Conference on 19th November 2025 ➢ Mr.N.Sathishkumar, Assistant Professor, Department of Mechanical Engineering acted as a reviewer for an article titled "Multiscale analysis on the effect of laser preheating on the fabrication of micro-textured surface of titanium alloy by laser-ultrasonic-vibration assisted cutting" in Engineering Research Express (ESCI and Scopus Indexed Q2 Journal). ➢ Mr. N. Sathishkumar, Assistant Professor, Department of Mechanical Engineering, acted as a reviewer for an article titled “Engineering Intervertebral Disc Replacements Using 3D-Printed Open Gyroid Architectures” in the journal Biomedical Materials (SCI and Scopus Indexed Q2 Journal). ➢ Dr. K. Arun, Associate Professor, Department of Mechanical Engineering, acted as a reviewer for the manuscript “Stuck in the Past or Paving the Future? Unraveling the Impact of Board Tenure on Carbon Emissions ” submitted to “European Journal of Sustainable Development Research”, a Scopus Indexed Journal.

	➢ Dr. G. M. Lionus Leo, Associate Professor, and Mr. G. Ashwin Prabhu, Assistant Professor, Department of Mechanical Engineering, Published a Journal Article Titled “Optimizing Thermal Efficiency and Emissions in Hybrid HCCI-DI Combustion with Biodiesel-Diethyl Ether-Nanoparticle Blends” in the "Journal of Thermal Science and Technology", Volume 45, Issue 2, a SCIE Indexed & Anna University Annexure 1 Journal on 20th November 2025 ➢ Mr. Pravinkumar Kamatchi, Assistant Professor, Mechanical Engineering, participated in the FDP on Modern Web Development & AI Integration from 17–21 November 2025.The programme, jointly organized by Edunet Foundation and EY Global Delivery Services, focused on modern web technologies and AI tools. ➢ Mr. T. Balasubramanian, Assistant Professor from the Department of Mechanical Engineering, Successfully completed Swayam NPTEL Exam on Title Introduction to Internet of Things(IoT) with Elite Certification jointly organized by IIT Kharagpur. ➢ Mr. T. Balasubramanian, Assistant Professor from the Department of Mechanical Engineering has successfully participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on ATAL FDP on Robotics for Industry 4.0: Enabling Smart Manufacturing at SRI VENKATESWARA COLLEGE OF ENGINEERING from 17/11/2025 to 22/11/2025. ➢ Dr. M. Ganesh, Assistant Professor from the Department of Mechanical Engineering has successfully participated & completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on ATAL FDP on Robotics for Industry 4.0: Enabling Smart Manufacturing at SRI VENKATESWARA COLLEGE OF ENGINEERING from 17/11/2025 to 22/11/202
2	  **Industry Interaction**	➢ SAE Officials, Mr. Ramakrishnan, DGM, Mahindra & Mahindra, MCity Chengalpet and Dr. Krithika, ASP from SRM Kattankulathur Visited our campus on 20/11/2025 as part of SAE Student Chapter Awareness Session and know our activity of SAE student Chapter and our college facility. They met Dr. N. Arunkumar, Dean Industy Collabration & IQAC, Dr. L. Balamurugan, HOD Mech, Mr. T. Balasubramanian, Senior Faculty Advisor (SAE

		SJCE) and other Faculty Advisors Dr. M. Ganesh and Mr. KMB. Karthikeyan
3	 **Faculty Drone Workshop**	➢ Faculty Workshop on Drone Technology The Department of Mechanical Engineering, in collaboration with Aquaforge Robotics Pvt. Ltd., Successfully completed a Faculty Workshop on Drone Technology on Nov 26, 2025 under the spirit of innovation and continuous learning.
5	INDUSTRY COLLABORATION	➢ Department of Mechanical engineering faculty Dr. K. Arun, visited Hapag Lloyd Technology Center Pvt. Ltd. and met the officials regarding MoU, student internships through hackathon, student projects and placement

		
	SCHOOL OUTREACH PROGRAM  	Department of Mechanical Organized a School Outreach program on 3D PRINTING TECHNOLOGY & DRONE TECHNOLOGY on 08/11/2025 in MCC Campus Matriculation Higher Secondary School, Air Force Station Rd, East Tambaram,Chennai-59. 200 Participants from 11 & 12 Std had a vision and current trends on 3D Prinitng and Drone System th t
		Mr. Marcian Fernando (Batch of 2006-2010), a meritorious alumnus of our department and currently Manager of Business Analysis at Cognizant Technology Solutions, visited our college

		and provided invaluable insights to our waitlisted SIH '25 team. He has also assured us of his continued support throughout the competition
		➢ On 27/11/2025, The Department of Mechanical Engineering conducted an Alumni Mentorship Session titled “The Road to Interview Success” featuring alumni Mr. Thamizhselvan S and Mr. Sarathi R from the 2021–2025 batch, currently Graduate Apprenticeship Trainees at Thermax Limited. A total of 43 students attended the session. The speakers explained the various divisions of the Thermax plant and highlighted key Aptitude topics essential for clearing Round 1. They also discussed important technical subjects for Rounds 2 and 3 and shared insights on the schemes, benefits, and career opportunities at Thermax. The session provided valuable guidance and motivated students to prepare effectively for future placements

			➢ We are proud to announce that Michael Jeremiah S, from the Department of Mechanical Engineering (Batch 2022–26), has successfully completed a 1-year International Internship at the prestigious Mitsubishi Fuso Kawasaki Plant, Japan. This achievement showcases our institution's commitment to providing global exposure and industry-integrated learning opportunities to our students.

		➢ Mr. Sharath Sanjeev of Third Year Mechanical Engineering, has bagged 3 Silver Medals in Inter Zone Swimming Competition conducted by Anna University held at SRM Easwari Engineering College, Chennai

		➢ Our 3rd year students actively engaged in the AWS Student Community Day multidisciplinary team event. Two students from Mechanical Engineering contributed to the complete hardware and design of the Nephele 3.0 Student-Campaign Robot. ➢ Harish J – Hardware Lead of Nephele 3.0, from PEP Cloud Computing, along with Nandhakumar G – Hardware Team, played a key role in developing the robot's entire hardware framework. Nephele 3.0 features a reinforced mechanical structure, optimized power architecture, and a precisely engineered sensor layout designed to support autonomous mobility and cloud-integrated functions. The hardware system ensures stability, efficiency, and seamless coordination with the AI, cloud, and edge-computing modules. This robust engineering foundation elevates Nephele 3.0 as a hyper-intelligent, hyper-connected robotic initiative built by dedicated student teams.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Events conducted:

The following events have been conducted during November 2025 at College Level

1. Placement Empowerment Program	**Report**
	The Centre for Innovation – Semiconductor and VLSI Design Centre, in collaboration with Zerlon Semi, has commenced the intensive One-Month Core Placement Training Program on VLSI Fundamentals for 2nd year ECE students. This program, featuring modules on EDA Tools, Digital/Analog Electronics, and Pilot Projects, aims to build a strong foundation for future semiconductor professionals. Initial feedback from Week 1 (Introducing EDA Tools) has been excellent, with students praising the sessions for providing crucial insights into the VLSI domain, industry opportunities, and essential digital electronics basics, confirming the training is a major boost to their placement preparation and practical skills development.
2. Outreach Program	

Dr.D. Lakshmi, Associate Professor was invited as Guest of Honor and Panel Jury for the event MOSTRAX'2k25 organized by University College of Engineering, Arni on 4th November 2025. During the event, technical papers on Industrial Automation, ClimAI -Micro Sat and smart Cities presented by various teams from other University constituent Colleges of Engineering and Affiliated institutions.

3. Certification Program

1) Dr. Latha P, Associate Professor of ECE, has earned global certification as an innovative educator through the prestigious, 16-week Multicore Ware-sponsored IUCEE-IIECP Spring 2025 program.
2) Mr. G. D. Vignesh, Assistant Professor has been recognized as an NPTEL Course Topper, securing two Silver Medals in "Basics of Software Defined Radios" and "Modern Digital Communication Techniques."
3) Dr. K. Ramachandra Reddy, Assistant Professor has achieved NPTEL Elite status by successfully earning three Silver Medals across his specialized certifications.
4) Mrs. R. Madhumitha, Assistant Professor attained NPTEL Elite status through her academic excellence and the successful acquisition of a Silver Medal.
5) Dr. S. Rajesh Kannan, Professor has been achieved Elite status for his mastery of "Modern Digital Communication Techniques."

6) Dr. J. Martin Leo Manickam, Professor has been recognized for his successful certification in "Basics of Software Defined Radios and Practical Applications."

7) Dr. R. Avudaiammal, Professor has earned Elite honors for her expertise in "Basics of Software Defined Radios and Practical Applications."

8) Dr. P. Latha, Associate Professor Distinguished as an Elite certified professional in "Hardware Modeling using Verilog."

9) Mrs. D. Beaulah Princiba, Assistant Professor has Secured Elite status for her proficiency in the "Introduction to Internet of Things."

4. Publications

1. Rayavarapu Sridivya, Behara Venkata Nandakishore, Dr Ved Srinivas, Dr. R. Niruban, Rajesh Tulasi, and Amit Verma, "Machine Learning-Driven Improvements in Software Delivery Pipelines," Journal of Theoretical and Applied Information Technology, Vol 103, No. 19.
2. S. Poorani, P. Josephin Shermila, R. Niruban, and T. Maris Murugan, "A multi-faceted strategy for scalable, efficient, and grid integrated electric vehicle systems using solid-state batteries and AI technologies," Sustainable Energy, Grids and Networks, Vol 44 (2025), SCIE Impact Factor: 5.6.
3. Ganesh Babu R, Geetha T S, Ramachandra Reddy K, and Kavin Kumar K, "Machine learning for river water quality monitoring: assessing seasonal and agricultural influences," Environmental Earth Sciences, Volume 84, article number 626 (Oct 2025), SCIE Impact Factor: 2.8.
4. Prabu, Ramachandran Thandaiah, Perumalsamy, Sasireka, Murthy, Garapati Satyanarayana, Balamurugan, Alagar Manavalan, Kumar, Chandran Ramesh, Meenakshisundaram, Natarajan, and Anwer, Karem Tarek, "Simulative performance evaluation of high-speed long distance soliton propagation data transmission system based on dispersion control in optical fiber system," Journal of Optical Communications (Oct 2025), Scopus-indexed.
5. M. Sudha, Ujwal Ramesh Shirode, Papana Venkata Prasad, and S. Vinayagapriya, "Optimizing Electric Vehicle Charging in Smart Grids: An IoT-Based Approach With TARNN-NO," Quality and Reliability Engineering International, Vol 1, No 15 (Oct 2025), SCIE Impact Factor: 2.8.
6. G D Vignesh, M Silambarasan, A M Balamurugan, and J D Wilson Arul Raj for presenting their paper titled "AUDIO MATE –

A Multisensory Learning Aid for Visually Challenged" at the 2025 International Conference on Recent Innovation in Science Engineering and Technology (ICRISET).

7. G D Vignesh, Sudheesh S S, Subash K M, and A M Balamurugan presented their paper titled "GWO-PowerGuard: An Adaptive Power Control Framework Using Grey Wolf Optimization for PU Protection in CR-WSNs" 2025 International Conference on Recent Innovation in Science Engineering and Technology (ICRISET).
8. G D Vignesh, Abla Suliman Hussein, O V S S Prasad, K Muralibabu, P Nishitha, and S Purushotham presented their paper titled "An Optimized Key Distribution Protocol to Perform Secure Wireless Data Transmission in Heterogeneous WSN Environment" at the 2025 International Conference on Recent Innovation in Science Engineering and Technology (ICRISET).

5. FDP Attended

1. K. Ramachandra Reddy, Assistant Professor, Department of ECE, attended a National FDP on "System Design Through Verilog" for 8 weeks (Jul 25 - Sep 25) conducted by IIT Guwahati.

2. K. Ramachandra Reddy, Assistant Professor, Department of ECE, also attended a National FDP on "Advanced Materials for Next-Generation Space and Defence Technologies" for 6 days (Aug 21 - Aug 27, 2025) at C. K. College of Engineering & Technology.

3. Lingeshwaran M, Assistant Professor, Department of ECE, attended a National FDP on "5G & Beyond: Bridging Tomorrow" for 5 days (Jul 28 - Aug 1, 2025) conducted by NOKIA, Bangalore.

4. R. Madhumitha, Assistant Professor, Department of ECE, attended a National STP (Short-Term Program) on "Bootcamp on 'Introduction to Blockchain Technology and its Use Cases'" for 5 days (Aug 18 – Aug 22, 2025) at C-DAC Hyderabad.

5. G D Vignesh, Assistant Professor, Department of ECE, attended a National FDP on "5G & Beyond: Bridging Tomorrow" for 5 days (Jul 28 - Aug 1, 2025) conducted by NOKIA, Bangalore.

6. G D Vignesh, Assistant Professor, Department of ECE, attended a National FDP on "Advanced Materials for Next-Generation Space and Defence Technologies" for 5 days (Aug 21 - Aug 27, 2025) at C.K. College of Engineering & Technology.

7. G D Vignesh, Assistant Professor, Department of ECE, completed a National FDP on "Basics of SDR & its practical applications" for 4 weeks (Jul 25 - Aug 25) which was offered through NPTEL – IIT Rourkee.

8. Beaulah Princiba D, Assistant Professor, Department of ECE, attended a National FDP on "AI for Teaching and Learning" for 2 weeks (Aug 18 - Aug 29, 2025) conducted by IIT Guwahati.

9. Beaulah Princiba D, Assistant Professor, Department of ECE, attended a National FDP on "Emerging Technologies and trends

of future Energy-2030" for 6 days (Sep 15 - Sep 20, 2025) at St. Joseph's College of Engineering and Technology, Thanjavur.

10. Beaulah Princiba D, Assistant Professor, Department of ECE, completed a National FDP on "Introduction to Internet of Things" for 12 weeks (Jul - Oct 2025) which was offered through NPTEL - AICTE.

11. Beaulah Princiba D, Assistant Professor, Department of ECE, attended a National FDP on "Harnessing RF-Optical Synergy for Revolutionary Biomedical Devices in NGW Networks" for 6 days (Nov 17 - Nov 22, 2025) at Hindustan Institute of Technology and Science.

12. Meenakshi S , Assistant Professor, Department of ECE, attended a National FDP on "Harnessing RF-Optical Synergy for Revolutionary Biomedical Devices in NGW Networks" for 6 days (Nov 17 - Nov 22, 2025) at Hindustan Institute of Technology and Science.

13. Dr. Jayanthi E, Assistant Professor, Department of ECE, attended a National FDP on "Harnessing RF-Optical Synergy for Revolutionary Biomedical Devices in NGW Networks" for 6 days (Nov 17 - Nov 22, 2025) at Hindustan Institute of Technology and Science.

14. Dr. S. Sri Jamiya, Assistant Professor, Department of ECE, attended a National FDP on "Generative AI and Prompt Engineering" for 5 days (Oct 27 - Oct 31, 2025) at R P Sarathy Institute of Technology.

15. Dr. S. Sri Jamiya, Assistant Professor, Department of ECE, completed a National FDP on "Introduction to Machine Learning" for 12 weeks (Jul - Oct 2025) which was offered through NPTEL.

16. Dr. S. Sri Jamiya, Assistant Professor, Department of ECE, completed a National FDP on "Introduction to Internet of Things" for 12 weeks (Jul - Oct 2025) which was offered through NPTEL.

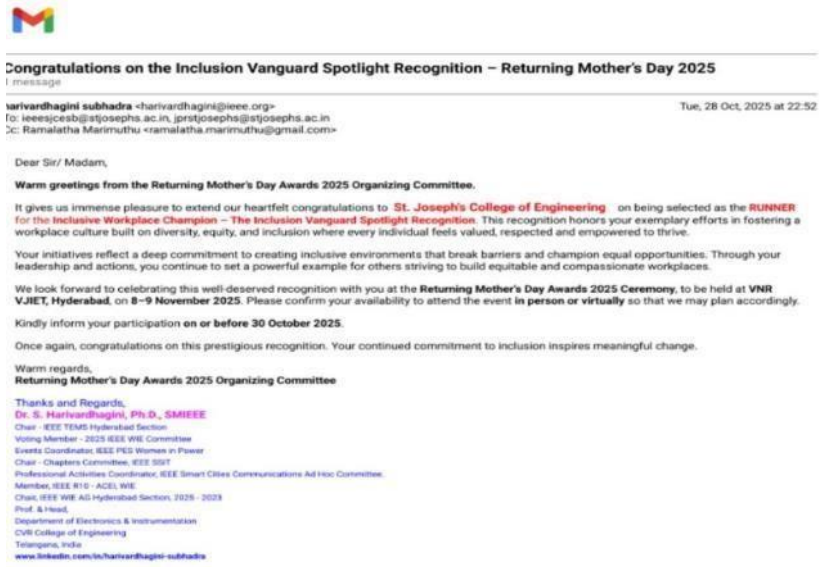
17. G D Vignesh, Assistant Professor, Department of ECE, completed a National FDP on "Modern Digital Communication Techniques" for 12 weeks (Jul - Oct 2025) which was offered through NPTEL.

18. Thenmozhi P, Assistant Professor, Department of ECE, attended a National FDP on "Recent Trends and Future Directions in AI for Medical Imaging" for 6 days (Nov 10 - Nov 15, 2025) at St. Joseph's College of Engineering.

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Sl. No.	Photographs Captured During Events	Corresponding remarks (Minimum 300 words)
1.	**Faculty Workshop**  ***PIC: EVENT POSTER & PHOTO***	Department of Electrical and Electronics Engineering conducted a 2 days National level faculty Workshop on "AI-Driven Drone systems: From Automation to Autonomy" from 14th November 2025 to 15th November 2025. **32** faculty members from various college all over Tamilnadu participated in the workshop. From **Garuda Aerospace Ltd** 3 experts (**Mr. Raj Tilak** and **Mr.Harin**) handled the session and from **Gem labs Pvt ltd., Mr. Faraz Ahmed** delivered drone design aspects. **Mr. Dinesh kumar a drone captain** gave a drone flying factors in real time. **Dr. M. Ramesh Babu**, Professor, **Dr.T.Babu** Associate Professor, **Dr.A.Jamna,** Drone Lab incharge, co-ordinated the entire programme

2.	**Hands on training**  ***PIC: EVENT PHOTO***	Department of Electrical and Electronics engineering in association with Placement empowerment program centre for Electric Vehicle Technology organised **Hands on training session** on 22 and 23 November 2025 with Topic: **Accelerating Excellence Empowering minds with breakthrough electric mobility solutions.** **Dr.P.Velmurugan,** Associate professor, Department of EEE, St.Joseph's College of Engineering**,** conducted the training session**.**
3.	**YUVAi – Global Youth Challenge**  ***PIC: EVENT POSTER***	An awareness seminar on "**YUVAi – Global Youth Challenge**" was conducted by **NIELIT Chennai** on 10/11/2025 Monday at the Seminar Hall, MBA Block, St. Joseph's College of Engineering from 11.30 a.m. to 12.30 p.m. The session provided an overview of the YUVAi initiative under the IndiaAI Mission and its objectives. Students were briefed on the registration process and steps to participate in various AI challenges. The resource person **Mr. Sourav Acherjee, Scientist -B,** NIELIT highlighted opportunities for developing AI solutions for social good. An interactive Q&A session engaged the students and clarified important aspects of the program. Overall, the seminar created strong awareness and motivated students to explore AI-driven innovation.

4.	**IEEE activities**  ***PIC: EVENT PHOTO***	St. Joseph's College of Engineering has been selected as the WINNER for the **Awareness Advocate – Voice of Inclusion Impact Recognition**. This recognition celebrates your outstanding efforts in championing awareness, advocacy, and dialogue around inclusion and equality.
5.	**IEEE activities**  ***PIC: EVENT PHOTO***	St. Joseph's College of Engineering has been honored as the Runner for the Inclusive Workplace Champion – Inclusion Vanguard Spotlight Recognition at the Returning Mother's Day Awards 2025. This award celebrates the institution's strong commitment to diversity, equity, and inclusion, fostering a workplace where everyone feels valued and empowered.

6.	**IEEE activities**  ***PIC: EVENT PHOTO***	The upskill Madras 2025 event on 25th October featured a highly engaging keynote session titled "**First Steps: What Employers Expect from Freshers"**, delivered by **Ms. Ruhaya Sithara (Kissflow).** She highlighted essential employability skills such as effective communication, adaptability, continuous learning, resume preparation, professionalism, and interview readiness. Her insights offered students a clear roadmap for navigating the transition from academics to industry expectations.
7.	**IEEE activities**  ***PIC: EVENT PHOTO***	The first panel, **"First 90 Days: Employer Expectations After You're Hired,"** brought together experts from leading organizations, including Kissflow, LatentView, VA TECH Wabag, and Zoho. The panelists shared insights on adapting quickly to workplace expectations, understanding organizational culture, developing a strong performance mindset, and navigating the early learning phase. The second panel, **"Thriving in the Workplace: Challenges and Opportunities,"** featured professionals from Forte Consulting, Comcast, MassMutual India GCC, and Accenture. They highlighted the importance of long-term career planning, emotional intelligence, staying motivated, continuous skill enhancement, and maintaining a healthy work–life balance.

8.	**Student Achievements**     ***PIC: EVENT PHOTO***	Senior under officer **Sinduja B, III EEE** has participated in **Republic Day camp 2025** (Idea and Innovation) held at Vijayawada during November 10 to 16, 2025. **Sadhana A, III EEE** got **IEEE PES scholarship award 2025, Rs.75,000/-** for excellence in academics and volunteering. **K. Vignesh Pandi (IV EEE) , Madhavan JK,(IV EEE) , Saravana Kumar R (III EEE) , Duraimugesh (II EEE), Muvin Balaji (II EEE) , Yuvaraj (II EEE)** won **Anna University Zone-III Hockey Tournament -2025** held at Corporation Hockey field, Chennai on 2/11/25 **Balaji PC (III EEE), Suman (II EEE B)** won in **Anna University Zone-III HANDBALL Tournament -2025** held at Dhanalakshmi Engineering, Chennai on 2/11/25 . **Padala Dhonika (III EEE) won** 800 M Freestyle GOLD, 400 M Freestyle silver, 100 M Backstroke Bronze, 200 M Backstroke Bronze and **SWIMMING OVERALL WOMEN CHAMPIONSHIP at Annauniversity InterZonal Swimming Competition -2025** held at Easwari Enginerring college , Chennai on 6/11/25 . **Haritha Shree S (III EEE) Won Silver** medal in **200m freestyle and 100m Backstroke in Anna university InterZonal Swimming Competition -2025** held at Easwari Engineering , Chennai on 6/11/25 .

9.	**Faculty Interactions**   ***PIC: EVENT PHOTO***	• **Dr.Jayarama Pradeep,** Head of the Department, Electrical and Electronics Engineering, St. Joseph's College of Engineering, attended the **CII–The Hindu Sustainability Summit 2025** as a Special Invitee on 7/11/ 2025. The summit served as a premier platform for advancing India's green transition and climate resilience. Key sessions highlighted clean technology innovations, green finance, water conservation, and climate governance. • **Dr.Jayarama Pradeep,** Head of the Department , Electrical and Electronics Engineering, and **Mr. A. Sadeesh Kumar,** Assistant Professor, Department of EEE, St. Joseph's College of Engineering, **served as a Jury Member for the Chennai Open Hackathon 2.0 held at the LTTS Chennai Campus.** The 24-hour hackathon featured 150+ LTTS employee participants tackling real-time technical challenges. Their contribution to the evaluation committee added academic insight and strengthened industry–academia collaboration. • **Dr. M. Ramesh Babu**, Professor, and **Mr. H. Umesh Prabhu**, Assistant Professor, met **Mr. Joshua Samuel, Operations Manager, Swan Electric Contracts** on 28th November 2025 to discuss collaborative opportunities. • **Dr. M. Ramesh Babu,** Professor**,** and **Mr. H. Umesh Prabhu,** Assistant Professor, met **Mr.Dhanasekharan HR SGEN ENERGY and INFRA Pvt. Ltd.** on 28th November 2025 to discuss collaborative opportunities.
10.	**Faculty Recognition**  ***PIC: EVENT PHOTO***	Our faculty **Dr. N. Chidambararaj,** Associate Professor, Department of EEE, St. Joseph's College of Engineering, **served as the Chief Guest for the Project Day – Sparkathon 2025 at Vijay Vidhyashram Senior Secondary School.** He addressed the students and appreciated their innovative project displays. Our faculty **Dr.Jayarama Pradeep** acted as **Reviewer** for Iranian Journal of Science and Technology, Transactions of Electrical Engineering.

11.	**FACULTY PARTICIPATION**	1. **Dr C Venkatesh Kumar** AP/EEE, attended **ATAL FDP** on Design and Development of Electric Vehicles organized by Sri Mata Vaishnao Devi University 2. **Mr R Elanthirayan** AP/EEE attended a **Six days FDP** on AI Based Control Strategies for Power Electronics and Drives, organized by KSR Inst of Technology. 3. **Dr V Krishnakumar,** ASP/EEE have participated in the International Conference **ICAMMS 25** conducted by Rajalakshmi Engineering College, Chennai.
12.	PLACEMENT DETAILS FOR THE MONTH OF NOVEMBER 2025	**2022-2026 Batch** No of students placed = 66 Students Total No of Offers = 74 Offers Total No of Students (UG) = 171 Total No of Students Sports Causals (UG) = 01 Total No of Eligible Students (UG) = 141 (All Clear) % of students Placed (UG) = 66/170 = 38.8% No of students having single offers = 60 No of students having Double offers = 5 No of students having Triple offers = 1

DEPARTMENT OF MBA

ALUMNI TALK: 	Alumni Talk titled "Navigating Your MBA Journey: Choosing the Right Specialisation and Preparing for Placements" on 5th November 2025 at the MBA Conference Hall. The session was conducted for both First-Year MBA and MBA International students. The event featured two distinguished alumni speakers: Mr. Sunil Kumar V, Financial Analyst, MBA Batch of 2008 Ms. R. Karthiga, Editorial Office Ltd – Freelance, Indian Team Manager, MBA Batch of 2018–20
WORKSHOP ORGANISED: 	Organized a One-Day Workshop on "Basics of Securities and Market rading" exclusively for the First-Year MBA students on 3rd November 2025 at the MBA Conference Hall. The session was led by Mr. Jeyaprakash M, Director of Mcube Academy, Chennai, who shared valuable insights into the fundamentals of the securities market, trading mechanisms, and essential investment strategies.
FACULTY PUBLICATIONS:	• Dr. R. Satish has pubilshed a paper titled "Temporal Query Modeling in evolving news archieves" in scopus indexed Indian journal of information sources and services, Vol 15, Issue 03, 2025 • Mr.S.Aravinth has published paper titled AI-Powered Credit Scoring Models: Enhancing Accuracy and Reducing Bias in Loan Approvals in 4th IEEE World Conference on Applied Intelligence and Computing 2025, DOI: 10.1109/AIC66080.2025.11212072

SEMINAR / CONEFERENCE PRESENTATION:	Mr. S. Aravinth, has successfully presented two research papers at the 2025 3rd International Conference on Advances in Computation, Communication and Information Technology (ICAICCIT), organised by the Department of Computer Science & Engineering, Manav Rachna International Institute of Research and Studies, Faridabad. The conference was technically sponsored by the IEEE Delhi Section (Record No: 68829) and held from 31st October to 1st November 2025. Aravinth's first paper, titled "Impact of Decentralized Finance (DeFi) on Traditional Banking Models: A Block chain Perspective," explored how emerging block chain based financial systems are reshaping conventional banking structures, enabling transparency, efficiency, and user-driven financial interactions. His second paper, "Impact of Central Bank Digital Currencies (CBDCs) on Traditional Banking Systems," examined how government-backed digital currencies could transform monetary policy, payment infrastructures, and banking operations in the near future. Dr. Sampath K. has successfully presented his research paper titled "Predictive Analytics Framework for Strategic Decision-Making in Retail and Customer Churn Management" at the 2025 IEEE 3rd Global Conference on Wireless Computing and Networking (GCWCN), held from 22nd to 23rd November 2025.
Faculty Awards / Recognitions:	• Dr. Lekshmi R. S., from St. Joseph's College of Engineering, India, has been awarded two prestigious recognitions for her exemplary academic and research contributions in the field of scholarly review. She received the Certificate of Excellence in Reviewing from Archives of Current Research International for the academic year 2025–2026. • Dr. Lekshmi R. S. has been promoted to the Editorial Review Board of the International Journal of Information Science, Supply Chain & Management (IJISSCM). •

DEPARTMENT OF MATHEMATICS AND ENGLISH

<table>
<tr><th>Events</th><th>Remarks</th></tr>
<tr><td colspan="2">FDP/Workshop/Conference</td></tr>
<tr><td>  </td><td>
<table>
<tr><th>S.No</th><th>Name of the Staff</th><th>FDP Title</th><th>Organized By</th><th>Date</th></tr>
<tr><td>1</td><td>Dr. G. Meenadevi</td><td>Mathematical Foundations for Machine Learning</td><td rowspan="7">IIT M</td><td rowspan="7">July – Nov 2025</td></tr>
<tr><td>2</td><td>Mr. S. Manikanda Prabhu</td><td>Operations Research</td></tr>
<tr><td>3</td><td>Dr. N. Jose Parvin Praveena</td><td>Matrix Solver</td></tr>
<tr><td>4</td><td>Dr. B. Poorani</td><td>Application of Forecasting, Regression and Time Series Models</td></tr>
<tr><td>5</td><td>Dr. S. Aruna</td><td>Accreditation and Outcome Based Learning</td></tr>
<tr><td>6</td><td>Dr. S. Arul Amirtha Raja</td><td>Linear Algebra Through Geometry</td></tr>
<tr><td>7</td><td>Dr. B. Amutha</td><td>Introduction to Abstract and Linear Algebra</td></tr>
</table>
</td></tr>
<tr><td>Industial Projects done by students</td><td>1. Dev G Shayne; E. Evan Stains; D. Ephraim Melwin presented a paper entitled Adaptive Waste Management Assistant: AI and IOT Based Smart Waste Handling System in the conference International Conference On Contemporary Research Trends In Multidisciplinary Science And Technology</td></tr>
<tr><td>Publications(only published) details</td><td>1. Shoba. B; Kartheesan. L; Priyanka. S A; Deepa. R; Surendran. R "Quantum-Driven Agricultural Innovation: Evaluating Wheat Flour Quality Through Thermal Imaging and Biophotonic Emissions." In 2025 3rd International Conference on Data Science and Network Security (ICDSNS), pp. 1-6. IEEE, 2025.
2. Chakaravarthy Sankar, Mariappan Saravanan, Ramalingam Sujatha, Gangatharan Venkat Narayanan, Signed Fuzzy Graphs Domination in Environmental Monitoring Wireless Sensor Networks. (2025). European Journal of Pure and Applied Mathematics, 18(4), 5872. SCOPUS
3. Prabhu, S., Arulperumjothi, M., Jose Parvin Praveena, N. et al. Topological and entropic characterization of nitrogenated holey graphene. Sci Rep 15, 37833 (2025). https://doi.org/10.1038/s41598-025-21713-z SCIE
4. N. Rajamurugu, B. Srimanickam, K. Elangovan, S. Srividhya, B. Poorani, R. Krishnamoorthy, Nguyen Van Minh, Optimizing red chili drying using machine learning modelling of solar vent and open-air drying with seasonal</td></tr>
</table>

	performance analysis,Case Studies in Thermal Engineering,Volume 75,2025,107074,ISSN 2214-157X,https://doi.org/10.1016/j.csite.2025.107074. 5. **Poorani, B**., Sreevidya, R.C., Vijayakumar, R. et al. Experimental exergy analysis of SnO2 nanofluid photovoltaic thermal system using machine learning approach. J Therm Anal Calorim 150, 21625–21643 (2025). https://doi.org/10.1007/s10973-025-14938-7 6. S. Prabhu, S. Salu, Bibin K. Jose and **M. Arulperumjothi**, Molecular Topological Characterization Of Tessellations Of Rectangular Kekulene Structures, Palestine Journal of Mathematics, Vol 14(Special Issue III), 2025 SCOPUS 7. S. Prabhu, Simili Abraham, Bibin K. Jose and **M. Arulperumjothi**, On Various Distance-Based Topological Indices Of Hexabenzocoronene With Bitrapezium Structure, Palestine Journal of Mathematics, Vol 14(Special Issue III), 2025 SCOPUS 8. G. Navamani, N. Sumathi, A. Ramachandran, N. Vijaya, A. Vijayalakshmi, **S. Annadurai**, Extending Certified Domination: Bondage Numbers in Generalized Petersen Graphs, Int. J. Anal. Appl., 23 (2025), 273. 9. **G.Purushothaman**, K.Suresh, G.E.Chatzarakis and E.Thandapani, Noncanonical Fourth-Order Nonlinear Neutral Differential Equations Of Emden-Fowler Type: Oscillation Via Canonical Transform, Applicable Analysis and Discrete Mathematics 2025 Volume 19, Issue 2, Pages: 299-314, https://doi.org/10.2298/AADM240310008P 10. P., Henry Leonash; Prakash A.; **Venkateswara U**.; J., Sathish Kumar, Climate, Trauma, and Resilience: A Comparative Exploration of Omar El Akkad and Richard Powers, Theory & Practice in Language Studies (TPLS), 2025, Vol 15, Issue 11, p3745 11. M., Praveen Kumar; M., Vinoth Kumar; Vinitha, K. K.; **Venkateswara, U.** Diaspora, Trauma, and Unconsciousness: A Deep Dive Into Souvankham Thammavongsa's How to Pronounce Knife. Theory & Practice in Language Studies (TPLS), 2025, Vol 15, Issue 11, p3714
Funded Projects	-
Other activities	

DEPARTMENT OF SCIENCE

Sl. No.	Events	Remarks
1	**Collabarative Quality initiatives with other institutions**	***Association Membership*** ***1.*** Dr. J. Sharmila, Dr. S. Manikandan, Mr. S. Kaleel Mohamed Ibrahim, Dr. B. Subash, Dr. A. Dhivya received the Association Membership from the Elavenil – Indian Science and Technology Association on 28-11-2025.
2	**Industrial Visits,Inplant Training,Internships**	--
3	**Guest Lecture**	--
4	**FDP/Workshop/Conference**	***Presented the paper*** 1. Dr. N. Punitha had presented a paper titled "AI-Driven Mobility-as-a-Service Platforms for Sustainable and Efficient Urban Transportation Networks "at the "2nd International Conference on Electronic Circuits and Signalling Technologies" held from 23.11.25 to 24.11.25, conducted by "Lincoln University College, Petaling Jaya, Malaysia". 2. Dr. A. Arulmozhi had presented a paper titled "Efficient Smart Water Distribution Optimization Integrating IoT and Graph Neural Networks "at the "2nd International Conference on Electronic Circuits and Signalling Technologies" held from 23.11.25 to 24.11.25, conducted by "Lincoln University College, Petaling Jaya, Malaysia".

		3. Dr. A. Mahalakshmi had presented a paper titled "AI-Driven Autonomous Robots for Efficient Pest Detection and Management in Agriculture"at the "2nd International Conference on Electronic Circuits and Signalling Technologies" held from 23.11.25 to 24.11.25, conducted by "Lincoln University College, Petaling Jaya, Malaysia". ***Attended:*** 1. Mr. S. Kaleel Mohamed Ibrahim had attended online Faculty Development Program on "Redefining Teaching through AI, LMS and Digital Pedagogies " held from 27.10.25 to 07.11.25, conducted by "MNIT Jaipur's Electronics & ICT Academy". 2. Dr. C. Chandrasatheesh had attended ATAL - online Faculty Development Program on " Sustainable Semiconductor Technologies: Designing Energy-Efficient Devices for Green Electronics " held from 24.11.25 to 29.11.25, conducted by "Anil Neerukonda Institute of Technology & Sciences, Vishakapatnam".
6	**STTP**	1. Dr. S. Suresh had attended Capacity Building Program on " STEM Education - Physics " held from 20.11.25 to 28.11.25, conducted by "TLC - IIT Madras & The Ministry of Education, Govt. of India."
9	**Awards/Prize won by students / Staff**	***Staff NPTEL certifications:*** 1. Dr. N.R. Rajagopalan received a NPTEL certification on the title of "Mental Health and Wellbeing" with Gold ranking, 5% Topper certificate, on 13.11.25. 2. Dr. N. Punitha received a NPTEL certification on the title of "Basic Environmental Engineering and Pollution Abatement" with Silver ranking, 5% Topper certificate,

		on 13.11.25. 3. Dr. S. Suresh received a NPTEL certification on the title of "Energy Materials and Devices" with Elite grade, on 13.11.25. 4. Dr. K. Jayamoorthy received a NPTEL certification on the title of "Basic Environmental Engineering and Pollution Abatement" with Elite grade, on 13.11.25. 5. Dr. S.M. Prakash received a NPTEL certification on the title of "Advance Course in Social Psychology" with Elite grade, on 13.11.25. 6. Dr. B. Subash received a NPTEL certification on the title of "Biological Inorganic Chemistry", on 13.11.25. 7. Dr. G. Sasikumar received a NPTEL certification on the title of "Biological Inorganic Chemistry", on 13.11.25. 8. Dr. C. Chandrasatheesh received a NPTEL certification on the title of "Biological Inorganic Chemistry" with Elite grade, on 13.11.25. ***Students prize winners:*** 1. Mr. Gowri Shankar M, Mr. Hari Prasanth L (I- ECE) , won III prize in the "National Level Intercollegiate Hackathon Fest – "Dreste in '25 Build-a-thon" Conducted by "Saveetha Engineering College, Chennai", held on 04-11-2025.
11	**Publications(only published) details**	***Journal Publications:*** 1. Dr. P. Saravanan has published a research article titled "Integrating Compensation Management and Job Autonomy to Improve Retention in the Gig

		and Delivery Sector" in the "Journal of Local Self-Government", 23 (2025) DOI: https://doi.org/10.52152/802045 2. Dr. P. Saravanan has published a research article titled "Synergistic Effect of Biopolymer-Assisted Synthesis of Nano-Hydroxyapatite for Biomedical Applications " in the journal of "Polymers for Advanced Technologies", 36 (2025) doi: https://doi.org/10.1002/pat.70414 3. Dr. P. Saravanan has published a research article titled "Zero-emission transportation and aviation through green hydrogen innovation" in the journal of "Materials Today Sustainability", 32 (2025) 101264, Doi: https://doi.org/10.1016/j.mtsust.2025.101264 4. Dr. N. Punitha has published a research article titled "Performance and Emission Analysis of a Diesel Engine Fuelled with Cashew Nut Shell-Derived Biodiesel and Its Blends" in the journal of "Engineering Proceedings," 114 (2025) 16, doi: https://doi.org/10.3390/engproc2025114016 5. Dr. P. Krishnan has published a research article titled "Synthesis, characterization, BSA adsorption and antifouling studies of N-

		cyclohexylacrylamide based hydrogels ” in the journal of “Hybrid Advances,” 11 (2025) 100574, doi: https://doi.org/10.1016/j.hybadv.2025.100574 6. Dr. K. Jayamoorthy has published a research article titled “Advanced Assembly of Spherical MoO_3–SnO_2 Nanocomposite Material and Its Catalytic Applications” in the journal of “Topics in Catalysis,” (2025) doi: https://doi.org/10.1007/s11244-025-02233-6 7. Dr. S.M. Prakash has published a research article titled “Real-Time in-situ FTIR-Electrochemical Analysis of Charge Storage Processes in Solar-Integrated Supercapacitors with Real-Time Stability Profiling, ” in the journal of “Oxidation Communications,” 48 (2025) 1110-1122 8. Dr. S.M. Prakash has published a research article titled “Laccase-Mimetic Copper-Polydopamine Nanocatalysts as Redox Regulators for Selective Aerobic Oxidation of Phenolic Substrates” in the journal of “Oxidation Communications,”, 48 (2025) 1029-1040 9. Dr. S.M. Prakash has published a research article titled “Polymer-Nanowire Hybrid Composites Based on PEDOT: PSS and AgNWs for High-Performance

		Conductive Films in Flexible Devices" in the journal of "Polymer & Composites," 13 (2025) 236-250. doi: https://journals.stmjournals.com/jopc/article=2025/view=225295 10. Dr. K. Dhanaraj has published a research article titled "A greenery rodlike ZnO and Fe-doped ZnO photocatalysts for efficient dye removal from wastewater" in the journal of "Chemical Physics Impact" 11 (2025) 100979, DOI:10.1016/j.chphi.2025.100979 11. Dr. C. Chandrasatheesh has published a research article titled "Multi-walled carbon nanotube integrated Ni-Co hydroxide/$Cu_2(OH)_3NO_3$ heterostructures for efficient oxygen evolution in alkaline media" in the journal of "Electrochimica Acta" 547 (2025) 147859, : DOI:10.1016/j.electacta.2025.147859 ***Book Chapters*** Dr. T.L. Ajeesha has published a book chapter titled "Smart Sensor Networks with AI for Microclimate Monitoring and Agroecological Forecasting" in the book "Artificial Intelligence in smart agriculture for sustainable crop management and precision farming." published "RAD Publishers".(2025) DOI:10.71443/9789349552364-08

		Patents 1. Dr. N.R. Rajagopalan published a patent titled "Smart Multilingual Translators and Speech Recognition Systems for Global Business Communication - in the "Patent Office Journal 48/2025" – Application Number 202541108846, dt 28.11.25. 2. Dr. N. Punitha published a patent titled "Smart Educational Assistance for Enhancing English Proficiency in Science and Engineering Disciplines "- in the "Patent Office Journal 48/2025" – Application Number 202541108835, dt 28.11.25. 3. Mr. S. Kaleel Mohamed Ibrahim published a patent titled "Quantum Information Processing Platform Using Superconducting Technology"- in the "Patent Office Journal 48/2025" – Application Number 202541106227, dt 28.11.25. 4. Mr. S. Kaleel Mohamed Ibrahim published a patent titled "Quantum Computing Architecture with Superconducting Qubit Arrays"- in the "Patent Office Journal 48/2025" – Application Number 202541099440, dt 28.11.25. 5. Dr. K. Dhanaraj published a patent titled "Quantum Leap: A method and technique of innovative methods India's Advancements in Quantum Science

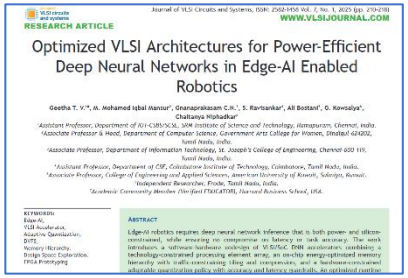
		and Technology"- in the "Patent Office Journal 48/2025" – Application Number 202541099440, dt 28.11.25. ***Editor*** Dr. N.R. Rajagopalan – 1. Journal of Advances in Nanotechnology 2. International Journal of Clinical Microbiology ***Reviewers:*** 1. Dr. S. Suresh - Current Organic chemistry 2. Dr. K. Jayamoorthy – 1. Journal of Chemical Sciences 2. Next Materials 3. Journal of Molecular Structure, 4. Chemistry Select 5. Current Organic Chemistry, 6. Measurement 7. Macromolecular rapid communication 3. Dr. B. Subash – 1. Current Analytical Chemistry 2. Journal of Dermatologic Science and Cosmetic Technology
12	**Funded Projects**	--

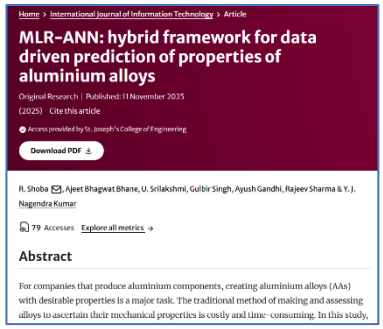
13	**Other activities(if any)**	1. As a part of Engineering Excellence –School Event, Dr. K. Jayamoorthy had coordinated events for 43 students from Sri Rajarajeshwari Matric Higher Secondary School, Tindivanam on 27-11-25.

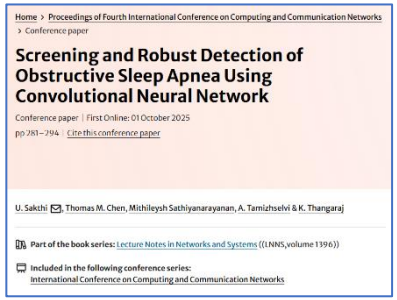
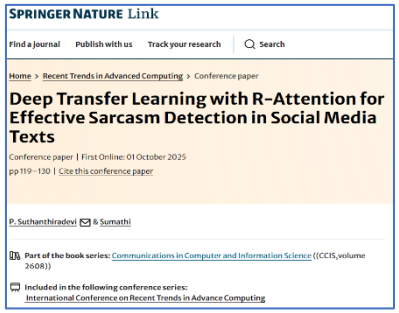
DEPARTMENT OF INFORMATION TECHNOLOGY

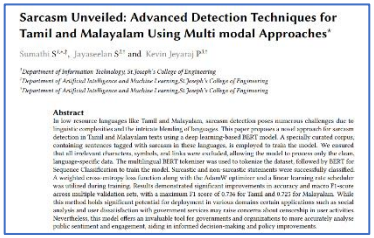
DEPARTMENT OF INFORMATION TECHNOLOGY

	Photographs Captured During Event/Screenshot	Corresponding remarks in regarding the status of activity execution
1.	 **Co-Author** **Mr.D. Dinesh Kumar,** published a paper indexed in	**<u>Staff Publication</u>** G. Ashwin Prabhu, R. Selvam, Vidhika Tiwari, B. P. Vijaykumar, Vijayan Subramaniyan, **D. Dinesh Kumar**, R. Sujit Prathameesh & Gavisiddesha Pattanashetty, "Optimizing hybrid composites: Enhancing mechanical properties with SiC and Al2O3 nanoparticles using response surface methodology", Journal of Materials Research, Volume 40, pages 2723–2734, 2723–2734 (2025), https://doi.org/10.1557/s43578-025-01694-5, Issue date 14 October 2025. (Indexed in Scopus) **Abstract:** This study presents a novel approach using response surface methodology to systematically analyse the impact of incorporating silicon carbide (SiC) and aluminium oxide (Al2O3) into basalt and glass fiber-reinforced epoxy composites, which is a relatively under-explored area in composite material research. The project seeks to investigate the tensile strength, flexural strength, impact energy and fatigue life of the composite resulting from the integration of these ceramic particles. The composites containing 6% SiC and 1% Al2O3 exhibited excellent performance. The L7 samples containing 6% SiC and 1% Al2O3 exhibited highest values of tensile strength (167.43 N/mm2) and moderate flexural strength (154.87 N/mm2). It is worth noting that composites containing L7 (6% SiC and 1% Al2O3) had the maximum recorded impact energy and fatigue life, highlighting the synergistic effects of the hybrid reinforcement. This composite material is highly suitable for the fabrication of boat hulls and decks used in marine industry.

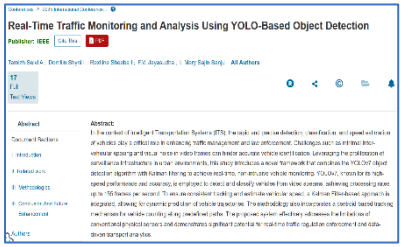
2.	 Journal of VLSI Circuits and Systems, ISSN: 2582-1458 Vol. 7, No. 1, 2025 pp. 210-218 WWW.VLSIJOURNAL.COM RESEARCH ARTICLE Optimized VLSI Architectures for Power-Efficient Deep Neural Networks in Edge-AI Enabled Robotics Geetha T. V.*, M. Mohamed Iqbal Mansur[2], Gnanaprakasam C.N.[3], S. Ravisankar[4], Ali Bostani[5], G. Kowsalya[6], Chaitanya Niphadkar[7] [1]Assistant Professor, Department of ECE-CSBS/SCSE, SRM Institute of Science and Technology, Ramapuram, Chennai, India. [2]Associate Professor & Head, Department of Computer Science, Government Arts College for Women, Dindigul 624202, Tamil Nadu, India. [3]Associate Professor, Department of Information Technology, St. Joseph's College of Engineering, Chennai 600 119, Tamil Nadu, India. [4]Assistant Professor, Department of CSE, Coimbatore Institute of Technology, Coimbatore, Tamil Nadu, India. [5]Associate Professor, College of Engineering and Applied Sciences, American University of Kuwait, Salmiya, Kuwait. [6]Independent Researcher, Erode, Tamil Nadu, India. [7]Academic Community Member (Verified ETHICATOR), Harvard Business School, USA. KEYWORDS: Edge AI, VLSI Accelerator, Adaptive Quantization, DVFS, Memory Hierarchy, Design Space Exploration, FPGA Prototyping ABSTRACT Edge-AI robotics requires deep neural network inference that is both power and silicon-constrained, while ensuring no compromise on latency or task accuracy. The work introduces a software-hardware codesign of VLSI/SoC DNN accelerators combining a technology-constrained processing element array, an on-chip energy-optimized memory hierarchy with traffic-constraining tiling and compression, and a hardware-constrained adaptable quantization policy with accuracy and latency guardrails. An optimized runtime **Co-Author** **Dr.Gnanaprakasam C.N,** published a paper indexed in	Geetha T., M. Mohamed Iqbal Mansur, **Gnanaprakasam C.N**, S. Ravisankar, Ali Bostani, G. Kowsalya, Chaitanya Niphadkar, "Optimized VLSI Architectures for Power-Efficient Deep Neural Networks in Edge-AI Enabled Robotics", Journal of VLSI Circuits and Systems, Vol. 7 No. 1 (2025), 210–218. https://doi.org/10.31838/JVCS/07.01.22.(Indexed in Scopus) Abstract: Edge-AI robotics requires deep neural network inference that is both power- and silicon- constrained, while ensuring no compromise on latency or task accuracy. The work introduces a software–hardware codesign of VLSI/SoC DNN accelerators combining a technology- constrained processing element array, an on-chip energy-optimized memory hierarchy with traffic-constraining tiling and compression, and a hardware-constrained adaptable quantization policy with accuracy and latency guardrails. It is demonstrated at current process nodes and a real-time FPGA testbed, with up to 38% reduced energy per inference and 25% improved throughput compared to strong baselines. Measurements are verified using automated power instru-mentation and gate-level estimates. Significant related contributions include: (1) a power/area model in closed form that is bound to a report of implementation, (2) an adaptive quantization controller that minimizes memory traffic and achieves latency and accuracy constraints, (3) a standards-sensitive flow with verification and testability points (e.g. that has a boundary-scan/DFT model) and can be evaluated reproducibly. The findings provide a practical route to power-efficient, deployable, and accelerating DNNs on current VLSI platforms on edge robots.

3.	 **Author** **Ms. Shoba R,** published a paper indexed in	**Shoba, R**., Bhane, A.B., Srilakshmi, U. et al. MLR-ANN: hybrid framework for data driven prediction of properties of aluminium alloys. International Journal of Information Technology(2025). https://doi.org/10.1007/s41870-025-02830-4, 11 November 2025. (Indexed in Scopus) **Abstract:** For companies that produce aluminium components, creating aluminium alloys (AAs) with desirable properties is a major task. The traditional method of making and assessing alloys to ascertain their mechanical properties is costly and time-consuming. In this study, the mechanical properties (elongation E, tensile strength Uts, and yield strength Yts) of aluminium alloys (AAs) are predicted using a hybrid machine learning framework. For validation on datasets containing alloy composition and processing methods, the proposed framework consists of Artificial Neural Networks (ANN) and Multiple Linear Regression (MLR). While MLR can capture linear dependencies, ANN greatly lowers Mean Squared Error (MSE) and enhances R-squared (R^2) values to more precisely estimate interaction effects. Loss curves from residual analysis show that the suggested framework performs better over time and in a wider range of situations. The results demonstrate the promising potential of the suggested framework in materials science as a scalable and effective substitute for conventional experimental techniques in alloy property prediction.
4.		**Staff Conference Publication** Sakthi U, Chen T.M., Sathiyanarayanan U. Sakthi, Thomas M. Chen, Mithileysh Sathiyanarayanan, **A. Tamizhselvi** & K. Thangaraj, "Screening and Robust Detection of Obstructive Sleep Apnea Using Convolutional Neural Network", Part of the book series: Lecture Notes in Networks and Systems, volume 1396, Proceedings of Fourth International Conference on Computing and Communication Networks. ICCCN, Springer, Singapore. https://doi.org/10.1007/978-981-96-6124-4_23, 2025. **(Indexed in Scopus)** **Abstract:**

	 **Author** **Dr. A. Tamizhselvi,** Published a paper in Scopus indexed Conference	The proposed research work presents a deep learning convolutional neural network model personalized for the uncovering of snoring actions using audio signals. For a numeral of robust motives, snoring exposure is imperative in the framework of health care and sleep. Breathing concerns associated to sleep, such sleep apnea, are recurrently specified by snoring. Timely recognition and handling of these disorders can result in more successful interventions and better overall health outcomes. Leveraging advanced deep neural network architectures, the model is trained on a diverse dataset to accurately identify, predict and classify snoring patterns. This research presents an innovative and efficient deep learning model designed for the automated detection of snoring events in audio signal recordings. The dataset used for training and evaluation encompasses a diverse range of snoring instances, capturing variations in pitch, intensity, and temporal patterns. Through rigorous training and validation processes, the deep learning model demonstrates high accuracy and robust generalization, effectively distinguishing between snoring and background noise. The evaluation metrics underscore the model's reliability and effectiveness in real-world scenarios. The study contributes to the field of sleep technology by providing a sophisticated and scalable solution for snoring detection. The potential applications extend to personalized sleep interventions, telemedicine, and the broader landscape of digital health solutions.
5.	 **Co-Author** **Dr. Sumathi S** Published a paper in Scopus	Suthanthiradevi, P.,**Sumathi,** "Deep Transfer Learning with R-Attention for Effective Sarcasm Detection in Social Media Texts", Recent Trends in Advanced Computing. ICRTAC 2024. Communications in Computer and Information Science, vol 2608. Springer, Cham. https://doi.org/10.1007/978-3-032-02537-1_12, 2025. **(Indexed in Scopus)** **Abstract:** Sentiment analysis is crucial in understanding user opinions, emotions, and attitudes across various domains. Traditional sentiment analysis methods rely primarily on textual data, limiting their ability to capture the full context of human expression, often including multimodal elements such as images, audio, and videos. Existing approaches struggle with ambiguity, sarcasm, and lack of contextual awareness, reducing accuracy and effectiveness. To address these limitations, we propose a novel framework called

		Sentiment Analysis using Machine Learning with Multimodal Models (SA-ML-MM), which integrates text, images, and audio inputs using large language models (LLMs) enhanced with multimodal capabilities. The proposed framework is applied in social media analysis, customer feedback interpretation, and emotion recognition. Experimental results demonstrate that SA-ML-MM significantly outperforms traditional text-based models, achieving higher accuracy and robustness in sentiment prediction. By incorporating multiple data modalities, our approach effectively captures nuanced emotional expressions, making sentiment analysis more precise and reliable.
6.	 **Sarcasm Unveiled: Advanced Detection Techniques for Tamil and Malayalam Using Multi modal Approaches** **Co-Author** **Dr. Sumathi S** Published a paper in Scopus	**Sumathi, S.,** Jayaseelan, S., Jeyaraj, K.P., "Sarcasm Unveiled: Advanced Detection Techniques for Tamil and Malayalam Using Multi modal Approaches", Ceur Workshop Proceedings, 4054, pp. 390-403, 2025, https://ceur-ws.org/Vol-4054/T4-19.pdf. (Indexed in Scopus) **Abstract:** In low-resource languages like Tamil and Malayalam, sarcasm detection poses numerous challenges due to linguistic complexities and the intricate blending of languages. This paper proposes a novel approach for sarcasm detection in Tamil and Malayalam texts using a deep learning-based BERT model. A specially curated corpus, containing sentences tagged with sarcasm in these languages, is employed to train the model. We ensured that all irrelevant characters, symbols, and links were excluded, allowing the model to process only the clean, language-specific data. The multilingual BERT tokenizer was used to tokenize the dataset, followed by BERT for Sequence Classification to train the model. Sarcastic and non-sarcastic statements were successfully classified. A weighted cross-entropy loss function along with the AdamW optimizer and a linear learning rate scheduler was utilized during training. Results demonstrated significant improvements in accuracy and macro F1-score across multiple validation sets, with a maximum F1 score of 0.736 for Tamil and 0.725 for Malayalam. While this method holds significant potential for deployment in various domains certain applications such as social analysis and user dissatisfaction with government services may raise concerns about censorship in user activities. Nevertheless, this model offers an invaluable tool for governments and organizations to more accurately analyse public sentiment and engagement, aiding in informed decision-making and policy improvements.

7.



Authors

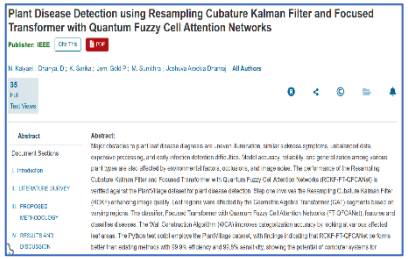
Dr Tamizh Selvi A;

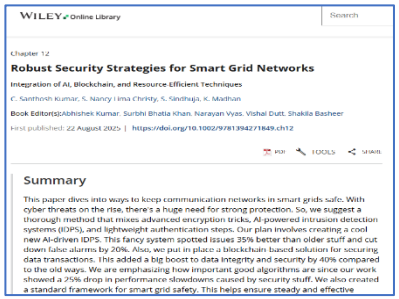
Ms Domilin Shyni I

Published a paper in Scopus indexed Conference

Tamizh Selvi A; Domilin Shyni I; Rexiline Sheeba I; F.V. Jayasudha; I. Mary Sajin Sanju, "Real-Time Traffic Monitoring and Analysis Using YOLO-Based Object Detection," 2025 International Conference on Next Generation Computing Systems (ICNGCS), Coimbatore, India, 2025, pp. 1-6, doi: 10.1109/ICNGCS64900.2025.11183064. (Indexed in Scopus)

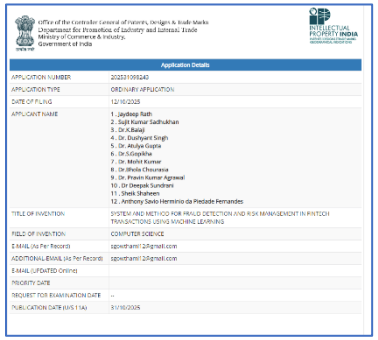
Abstract:
In the context of Intelligent Transportation Systems (ITS), the rapid and precise detection, classification, and speed estimation of vehicles play a critical role in enhancing traffic management and law enforcement. Challenges such as minimal inter-vehicular spacing and visual noise in video frames can hinder accurate vehicle identification. Leveraging the proliferation of surveillance infrastructure in urban environments, this study introduces a novel framework that combines the YOLOv7 object detection algorithm with Kalman filtering to achieve real-time, non-intrusive vehicle monitoring. YOLOv7, known for its high-speed performance and accuracy, is employed to detect and classify vehicles from video streams, achieving processing rates up to 155 frames per secondThe methodology also incorporates a centroid-based tracking mechanism for vehicle counting along predefined paths. The proposed system effectively addresses the limitations of conventional physical sensors and demonstrates significant potential for real-time traffic regulation enforcement and data-driven transport analytics.

8.	 Plant Disease Detection using Resampling Cubature Kalman Filter and Focused Transformer with Quantum Fuzzy Cell Attention Networks Publisher: IEEE **Co-Authors** **Ms.K. Sarika,** Published a paper in Scopus indexed Conference	N. Kalyani, D. D, **K. Sarika**, J. G. P, M. Sumithra and J. A. Dhanraj, "Plant Disease Detection using Resampling Cubature Kalman Filter and Focused Transformer with Quantum Fuzzy Cell Attention Networks," 2025 5th International Conference on Pervasive Computing and Social Networking (ICPCSN), Salem, India, 2025, pp. 1160-1166, doi: 10.1109/ICPCSN65854.2025.11035522. **(Indexed in Scopus)** **Abstract** Hybrids blockchain, AI, IoT, and 6G technology integration: It is a transformatory approach towards pesticide use in agriculture towards its optimization and protection of human life expectancy. In the research paper, I provide an all-inclusive framework. Using IoT sensors deployed in agriculture fields and real- time data collection, it monitors the soil moisture, temperature, and pesticide levels in the environment. The system considers hybrid blockchain technology, which enables secure and tamper-proof data management with transparency to comply with agrarian regulations. The 6G technology will implement ultra-fast communication, making instant decisions as well as instant automated action taken by smart contracts. It is a new framework aimed at supporting crop health and production, but more notably diminishing the exposure of hazardous pesticides toward humans and sustaining improved public health outcomes. The research will present solutions to the challenges in the management of pesticides to prove that new technologies can address issues of sustainable agricultural practices with minimal harm to human life.

9.	 WILEY Online Library Chapter 12 **Robust Security Strategies for Smart Grid Networks** Integration of AI, Blockchain, and Resource-Efficient Techniques C. Santhosh Kumar, S. Nancy Lima Christy, S. Sindhuja, K. Madhan Book Editor(s):Abhishek Kumar, Surbhi Bhatia Khan, Narayan Vyas, Vishal Dutt, Shakila Basheer First published: 22 August 2025 | https://doi.org/10.1002/9781394271849.ch12 Summary This paper dives into ways to keep communication networks in smart grids safe. With cyber threats on the rise, there's a huge need for strong protection. So, we suggest a thorough method that mixes advanced encryption tricks, AI-powered intrusion detection systems (IDPS), and lightweight authentication steps. Our plan involves creating a cool new AI-driven IDPS. This fancy system spotted issues 35% better than older stuff and cut down false alarms by 20%. Also, we put in place a blockchain based solution for securing data transactions. This added a big boost to data integrity and security by 40% compared to the old ways. We are emphasizing how important good algorithms are since our work showed a 25% drop in performance slowdowns caused by security stuff. We also created a standard framework for smart grid safety. This helps ensure steady and effective **Co-Author** **Mr.K. Madhan** Published a paper in Scopus indexed Conference	"C. Santhosh Kumar, S. Nancy Lima Christy, S. Sindhuja, **K. Madhan**" Robust Security Strategies for Smart Grid Networks Integration of AI, Blockchain, and Resource-Efficient Techniques, Secure Energy Optimization Leveraging Internet of Things and Artificial Intelligence for Enhanced Efficiency, Scrivener Publishing LLC, Online ISBN: 9781394271849, Print ISBN: 9781394271818, pp. 303-326, 22 August 2025, https://doi.org/10.1002/9781394271849.ch12. **(Indexed in Scopus)** **Abstract** This paper dives into ways to keep communication networks in smart grids safe. With cyber threats on the rise, there's a huge need for strong protection. So, we suggest a thorough method that mixes advanced encryption tricks, AI-powered intrusion detection systems (IDPS), and lightweight authentication steps. Our plan involves creating a cool new AI-driven IDPS. This fancy system spotted issues 35% better than older stuff and cut down false alarms by 20%. Also, we put in place a blockchain-based solution for securing data transactions. This helps ensure steady and effective protection across different systems. The results show that these combined methods really toughen up smart grid networks. They offer strong defenses against cyberattacks while making sure power distribution stays reliable. Looking ahead, we will work on improving these techniques and exploring new tech advances to tackle changing security challenges in the smart grid field.

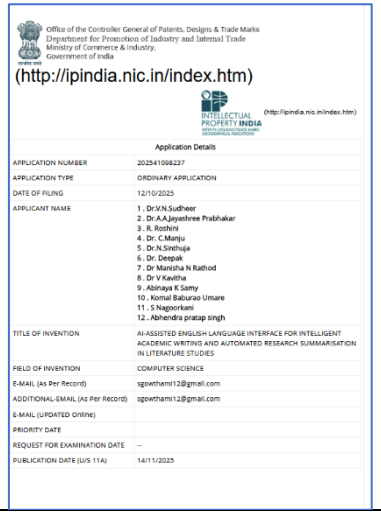
10.	 **Authors** **Dr.Sumathi, S., Donald Reagan, S., Aravinda Krishnan, B** Published a paper in Scopus	**Staff - Student Conference Publication** **Sumathi, S., Donald Reagan, S., Aravinda Krishnan, B**.(2026). Enhancing Healthcare Chatbots with Large Language Models: A LangChain Integration Approach., M. (eds) Proceedings of International Conference on Artificial Intelligence, Communication Technologies and Smart Cities. ICACS 2025, Lecture Notes in Networks and Systems, vol 1533. Springer, Singapore, Published 28 October 2025, Publisher: Springer, Singapore, Print ISBN 978-981-96-9195-1, Online ISBN 978-981-96-9196-8, https://doi.org/10.1007/978-981-96-9196-8_26.(Indexed in Scopus) **Abstract** This paper aims to improve the resolution of space imagery with a better version of Super-Resolution Generative Adversarial Network (SRGAN). Normally, it is impossible to obtain images from satellites with reasonable resolutions. We proposed the application of Dense Residual Blocks and Progressive Growing of the Generator together in the architecture of SRGAN to achieve more refined training while progressively increasing the resolution of the images. Dense residual blocks enable more feature reuse and enhance information flow within the network, hence facilitating better learning and the capacity to learn many complex textures and spatial information. Together, these advances significantly improve the stability in training, processing as well as the learning efficiency with enhanced images. The proposed enhanced SRGAN outperforms existing methods for generating high-resolution satellite images and is thus extremely applicable to real-world tasks requiring the reconstruction of fine details from low-resolution inputs.

11.	 Office of the Controller General of Patents, Designs & Trade Marks Department for Promotion of Industry and Internal Trade Ministry of Commerce & Industry, Government of India (http://ipindia.nic.in/index.htm) Application Details APPLICATION NUMBER 202521094857 APPLICATION TYPE ORDINARY APPLICATION DATE OF FILING 02/10/2025 APPLICANT NAME 1 . Sangade Rutuja Sanjay 2 . Narsaiah Battu 3 . Mamatha C 4 . Dr. Smita Bhagwat 5 . K. Dinesh 6 . Nivethitha Devi Manoharan TITLE OF INVENTION Real - Time Crop Health Monitoring & Predictive Disease Control Using IOT & AI FIELD OF INVENTION COMPUTER SCIENCE E-MAIL (As Per Record) mail2patentdpt@gmail.com ADDITIONAL EMAIL (As Per Record) E-MAIL (UPDATED Online) PRIORITY DATE REQUEST FOR EXAMINATION DATE -- PUBLICATION DATE (U/S 11A) 17/10/2025 **Mrs. Nivethitha Devi** Published an India Patent	**<u>Patent Published</u>** **Title of the invention:** Real - Time Crop Health Monitoring & Predictive Disease Control Using IOT & AI **Name of Inventor:** 1. Sangade Rutuja Sanjay 2. Narsaiah Battu 3. Mamatha C 4. Dr. Smita Bhagwat 5. K. Dinesh **6. Nivethitha Devi Manoharan** **Application Number:** 202521094857 **Date of filing of Application:** 2/10/2025 **Publication Date:** 17/10/2025

12.	 **Mrs. Sarika K** Published an India Patent	**Title of the invention:** A Kernel-Level Anti-Cheat System in Rust for Enhanced Gaming Security and Performance **Name of Inventor:** Sarika K **Patent Application Number:** 202541093334 **Date of filing of Application:** 29/09/2025 **Publication Date:** 31/10/2025
13.	 **Dr.S.Gopika** Published an India Patent	**Title of the invention:** System and Method for Fraud Detection and Risk Management in Fintech Transactions Using Machine Learning **Name of Inventor:** 1 . Jaydeep Rath 2 . Sujit Kumar Sadhukhan 3 . Dr.K.Balaji 4 . Dr. Dushyant Singh 5 . Dr. Atulya Gupta 6 . **Dr.S.Gopikha** 7 . Dr. Mohit Kumar 8 . Dr.Bhola Chourasia **Patent Application Number:** 202531098243 **Date of filing of Application:** 12/10/2025

		Publication Date: 31/10/2025
14.	 Office of the Controller General of Patents, Designs & Trade Marks Department for Promotion of Industry and Internal Trade Ministry of Commerce & Industry, Government of India (http://ipindia.nic.in/index.htm) Application Details APPLICATION NUMBER: 202541095317 APPLICATION TYPE: ORDINARY APPLICATION DATE OF FILING: 03/10/2025 APPLICANT NAME: 1. DR. ASHOK KOUJALAGI; 2. DR. A. GOPINATH; 3. R. GAYATHIRI; 4. R. Nivetha; 5. MRS. G. PRAGADEESWARI; 6. UTTHIRAKUMARI R; 7. DR. S. SUMATHI; 8. LATHA JOTHI V; 9. S. MANIKANDAN; 10. SARANYA C; 11. DR. K. P. YUVARAJ; 12. S PRAVEENA TITLE OF INVENTION: INTEGRATED AI-NANOPARTICLE PLATFORM FOR EARLY DETECTION AND TARGETED TREATMENT OF BREAST CANCER LESIONS FIELD OF INVENTION: CHEMICAL E-MAIL (As Per Record): patent.vaagdlo@gmail.com ADDITIONAL-EMAIL (As Per Record): E-MAIL (UPDATED Online): PRIORITY DATE: REQUEST FOR EXAMINATION DATE: -- PUBLICATION DATE (U/S 11A): 31/10/2025 **Mrs.R.Utthirakumari** Published an Indian Patent	**Title of the invention:** Integrated AI-Nanoparticle Platform for Early Detection and Targeted Treatment of Breast Cancer Lesions **Name of Inventor:** 1. Dr. Ashok Koujalagi 2. Dr. A. Gopinath 3. R. Gayathiri 4. R. Nivetha 5. Mrs. G. Pragadeeswari **6. Utthirakumari R** 7. Dr. S. Sumathi 8. Latha Jothi V **Patent Application Number:** 202541088818 **Date of filing of Application:** 18/09/2025 **Publication Date:** 17/10/2025

15.	 Office of the Controller General of Patents, Designs & Trade Marks Department for Promotion of Industry and Internal Trade Ministry of Commerce & Industry, Government of India (http://ipindia.nic.in/index.htm) INTELLECTUAL PROPERTY INDIA (http://ipindia.nic.in/index.htm) **Application Details** APPLICATION NUMBER: 202541093145 APPLICATION TYPE: ORDINARY APPLICATION DATE OF FILING: 29/09/2025 APPLICANT NAME: 1. Kavitha A 2. Nagaraj VK 3. Kavitha A TITLE OF INVENTION: ONCOTRUST-ZK MODEL – BUILDING TRUST IN CANCER PREDICTION THROUGH ZERO-KNOWLEDGE VALIDATION FIELD OF INVENTION: COMPUTER SCIENCE E-MAIL (As Per Record): outreach.kavi@gmail.com ADDITIONAL E-MAIL (As Per Record): E-MAIL (UPDATED Online): PRIORITY DATE: REQUEST FOR EXAMINATION DATE: -- PUBLICATION DATE (U/S 11A): 31/10/2025 **Ms.A.Kavitha** Published an Indian Patent	**Title of the invention:** Oncotrust-Zk Model – Building Trust in Cancer Prediction through Zero-Knowledge Validation **Name of Inventor:** **1. Kavitha A** 2. Nagaraj VK 3. Kavitha A **Patent Application Number:** 202541093145 **Date of filing of Application:** 29/09/2025 **Publication Date:** 31/10/2025
16.	 Office of the Controller General of Patents, Designs & Trade Marks Department for Promotion of Industry and Internal Trade Ministry of Commerce & Industry, Government of India (http://ipindia.nic.in/index.htm) INTELLECTUAL PROPERTY INDIA (http://ipindia.nic.in/index.htm) **Application Details** APPLICATION NUMBER: 202541094856 APPLICATION TYPE: ORDINARY APPLICATION DATE OF FILING: 02/10/2025 APPLICANT NAME: 1. Kavitha A 2. Ms Kavitha A 3. MR. NAVEEN KUMAR S TITLE OF INVENTION: ONCOTRANSDISTILL: CROSS-DOMAIN TRANSFER LEARNING AND SELF-DISTILLATION IN HISTOPATHOLOGICAL IMAGE ANALYSIS FOR AUTOMATED COLORECTAL CANCER GRADING FIELD OF INVENTION: COMPUTER SCIENCE E-MAIL (As Per Record): outreach.kavi@gmail.com ADDITIONAL E-MAIL (As Per Record): E-MAIL (UPDATED Online): PRIORITY DATE: REQUEST FOR EXAMINATION DATE: -- PUBLICATION DATE (U/S 11A): 31/10/2025 **Ms.A.Kavitha** Published an Indian Patent	**Title of the invention**: Oncotransdistill: Cross-Domain Transfer Learning and Self-Distillation in Histopathological Image Analysis for Automated Colorectal Cancer Grading **Name of Inventor:** **1. Kavitha A** 2. Ms Kavitha A 3. Mr. Naveen Kumar S **Patent Application Number:** 202541094856 **Date of filing of Application:** 02/10/2025 **Publication Date:** 31/10/2025

17.	 Office of the Controller General of Patents, Designs & Trade Marks Department for Promotion of Industry and Internal Trade Ministry of Commerce & Industry, Government of India (http://ipindia.nic.in/index.htm) Application Details APPLICATION NUMBER: 202541071427 APPLICATION TYPE: ORDINARY APPLICATION DATE OF FILING: 28/07/2025 APPLICANT NAME: 1 . Dr. R Muthukumar; 2 . Dr. Subba Reddy Chavva; 3 . R. Niranchana; 4 . T. A. Annie; 5 . V. Priyavarshini; 6 . Dr. Karthikeyan S.; 7 . Dr. C. R. Rene Robin TITLE OF INVENTION: A SYSTEM AND METHOD FOR ADAPTIVE ENERGY-EFFICIENT COMMUNICATION IN WIRELESS SENSOR NETWORKS USING DYNAMIC NODE SCHEDULING AND DATA AGGREGATION FIELD OF INVENTION: COMMUNICATION E-MAIL (As Per Record): abiresearchacademy@gmail.com ADDITIONAL-EMAIL (As Per Record): E-MAIL (UPDATED Online): PRIORITY DATE: REQUEST FOR EXAMINATION DATE: -- PUBLICATION DATE (U/S 11A): 01/08/2025 **Mrs.T.A.Annie** Published an Indian Patent	**Title of the invention:** A System and Method for Adaptive Energy-Efficient Communication in Wireless Sensor Networks Using Dynamic Node Scheduling and Data Aggregation **Name of Inventor:** 1. Dr. R Muthukumar 2. Dr. Subba Reddy Chavva 3. R. Niranchana **4. T. A. Annie** 5. V. Priyavarshini 6. Dr. Karthikeyan S. 7. Dr. C. R. Rene Robin **Patent Application Number:** 202541071427 **Date of filing of Application:** 28/07/2025 **Publication Date:** 01/08/2025
18.	 Office of the Controller General of Patents, Designs & Trade Marks Department for Promotion of Industry and Internal Trade Ministry of Commerce & Industry, Government of India (http://ipindia.nic.in/index.htm) Application Details APPLICATION NUMBER: 202541098237 APPLICATION TYPE: ORDINARY APPLICATION DATE OF FILING: 12/10/2025 APPLICANT NAME: 1 . Dr.V.N.Sudheer; 2 . Dr.A.A.Jayashree Prabhakar; 3 . R. Roshini; 4 . Dr. C.Manju; 5 . Dr.N.Sinthuja; 6 . Dr. Deepak; 7 . Dr Manisha N Rathod; 8 . Dr V Kavitha; 9 . Abinaya K Samy; 10 . Komal Baburao Umare; 11 . S Nagoorkani; 12 . Abhendra pratap singh TITLE OF INVENTION: AI-ASSISTED ENGLISH LANGUAGE INTERFACE FOR INTELLIGENT ACADEMIC WRITING AND AUTOMATED RESEARCH SUMMARISATION IN LITERATURE STUDIES FIELD OF INVENTION: COMPUTER SCIENCE E-MAIL (As Per Record): sgowthami12@gmail.com ADDITIONAL-EMAIL (As Per Record): sgowthami12@gmail.com E-MAIL (UPDATED Online): PRIORITY DATE: REQUEST FOR EXAMINATION DATE: -- PUBLICATION DATE (U/S 11A): 14/11/2025	**Title of the invention: AI-Assisted** English Language Interface for Intelligent Academic Writing and Automated Research Summarisation in Literature Studies **Name of Inventor:** 1. Dr.V.N.Sudheer 2. Dr.A.A.Jayashree Prabhakar 3. R. Roshini 4. Dr. C.Manju 5. Dr.N.Sinthuja 6. Dr. Deepak 7. Dr Manisha N Rathod 8. Dr V Kavitha **9. Abinaya K Samy** 10. Komal Baburao Umare

	Mrs.Abinaya.K.Samy Published an Indian Patent	**Patent Application Number:** 202541098237 **Date of filing of Application:** 12/10/2025 **Publication Date:** 14/11/2025
19.	 Office of the Controller General of Patents, Designs & Trade Marks Department for Promotion of Industry and Internal Trade Ministry of Commerce & Industry, Government of India INTELLECTUAL PROPERTY INDIA **Application Details** APPLICATION NUMBER 202541098010 APPLICATION TYPE ORDINARY APPLICATION DATE OF FILING 10/10/2025 APPLICANT NAME 1. Mr. Sankara Rao Allada 2. Dr. Sharanamma M Hugar 3. Nilesh Lakade 4. Dr. G. Gifta Jerith 5. Mrs. Phanimala Thiragati 6. Dr. J. Joshua Bapu 7. Mrs. I Domilin Shyni 8. Mrs. D. Kalaiselvi TITLE OF INVENTION AI-BASED EMPLOYEE RETENTION PREDICTION SYSTEM USING ORGANIZATIONAL BEHAVIOR METRICS FIELD OF INVENTION COMPUTER SCIENCE E-MAIL (As Per Record) immanuvel@gmail.com ADDITIONAL E-MAIL (As Per Record) E-MAIL (UPDATED Online) PRIORITY DATE REQUEST FOR EXAMINATION DATE -- PUBLICATION DATE (U/S 11A) 14/11/2025 **Mrs.I.Domilin Shyni** Published an Indian Patent	**Title of the invention:** AI-Based Employee Retention Prediction System Using Organizational Behavior Metrics **Name of Inventor:** 1. Mr. Sankara Rao Allada 2. Dr. Sharanamma M Hugar 3. Nilesh Lakade 4. Dr. G. Gifta Jerith 5. Mrs. Phanimala Thiragati 6. Dr. J. Joshua Bapu **7. Mrs. I Domilin Shyni** 8. Mrs. D. Kalaiselvi **Patent Application Number:** 202541098010 **Date of filing of Application:** 10/10/2025 **Publication Date:** 14/11/2025

13.

Sample FDP Certificate

Seminar/ FDP Attended by Faculty

S.No	Title of the topic	Name of the Staff	Conducted By	Date
1	Recent Trends and Future Directions In AI For Medical Imaging	1. Dr.Heltin Genitha C 2. Dr A Tamizhselvi 3. Dr.J.Thresa Jeniffer 4. Mr.D Dinesh Kumar 5. Ms.Hepsi Ajibah A S 6. Ms.I Domilin Shyni	ATAL at St. Joseph's College of Engineering (Information Technology)	10/11/2025 To 15/11/2025 (6 days)
2	Seven Day National E-Workshop on Essential Digital Language Skills	Mrs Subha K	Dhanalakshmi Srinivasan University	27.10.25 To 2.11.25(7 days)
3	Next-Gen Intelligence: AI Applications in Industry, Academia, and Beyond	Ms.I Domilin Shyni	ATAL FDP	8-9-25 to 13-9-25 (6 days)