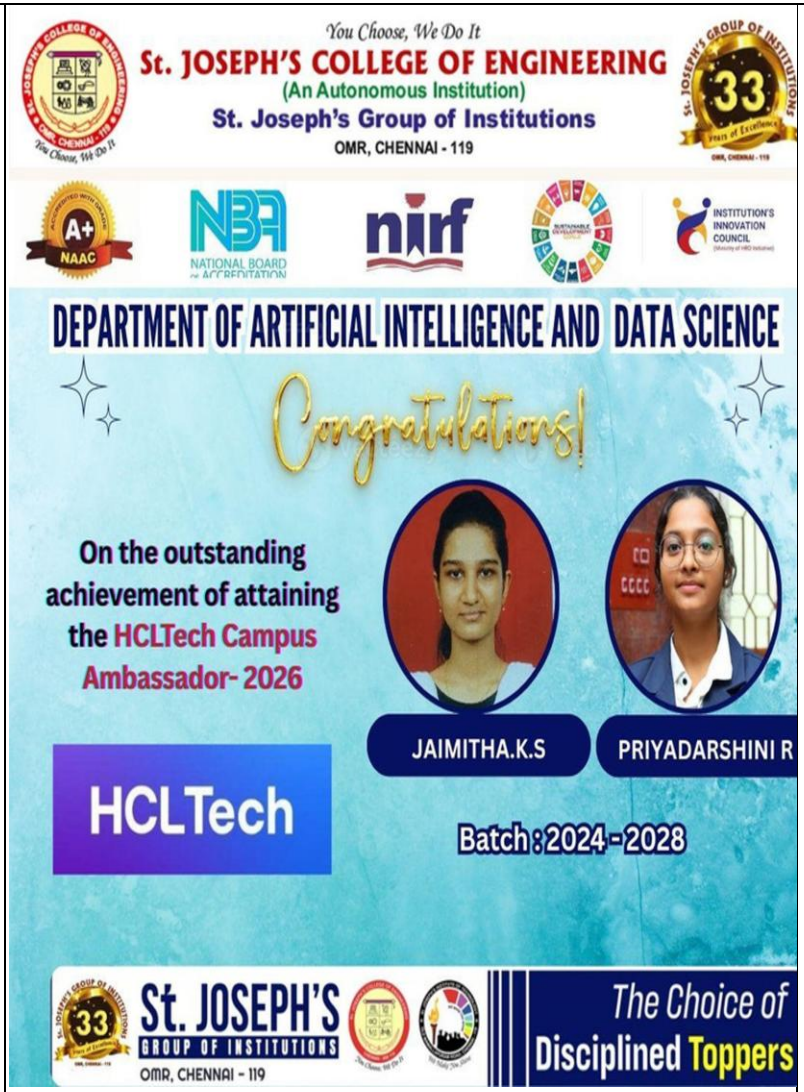
JUNE 2026

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

S.No.	Title of the Events and Photographs	Details of the Event
1.	STUDENT ACHIEVEMENTS/COMPETITION ATTENDED BY STUDENTS	Mohammed Thameem Sulthan M and Sadhana K of the Batch 2024–2028, Department of Artificial Intelligence & Data Science, St. Joseph's College of Engineering, Chennai, have achieved a significant milestone by being selected as HCLTech Campus Ambassadors – 2026.

Ms. Padma Priya R (Batch: 2024–2028), a student of the Department of Artificial Intelligence and Data Science, St. Joseph's College of Engineering, has been selected as a GeeksforGeeks Campus Ambassador, a prestigious recognition of her technical aptitude, leadership qualities, and enthusiasm for fostering a coding culture.

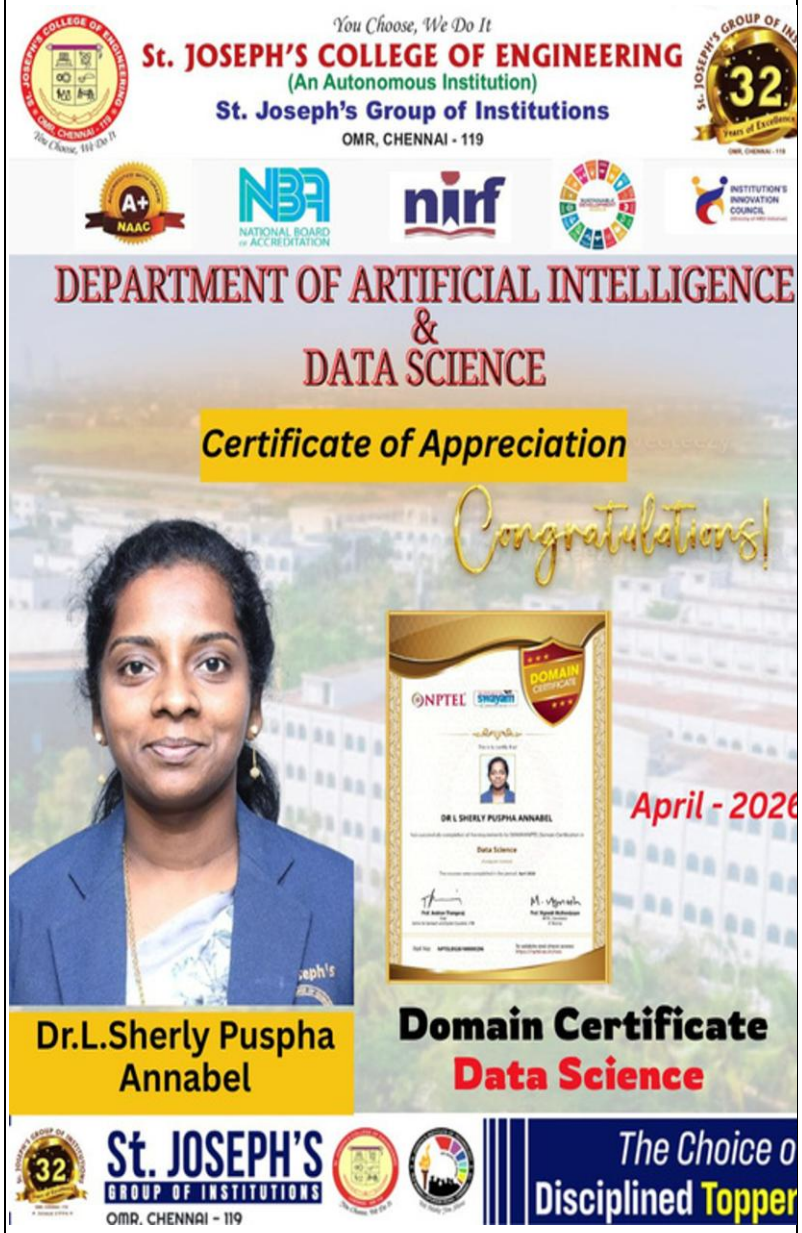
		S. Jaimitha K.S. and Ms. Priyadarshini R (Batch: 2024–2028), students of the Department of Artificial Intelligence and Data Science, St. Joseph's College of Engineering, have been selected as HCLTech Campus Ambassadors – 2026.



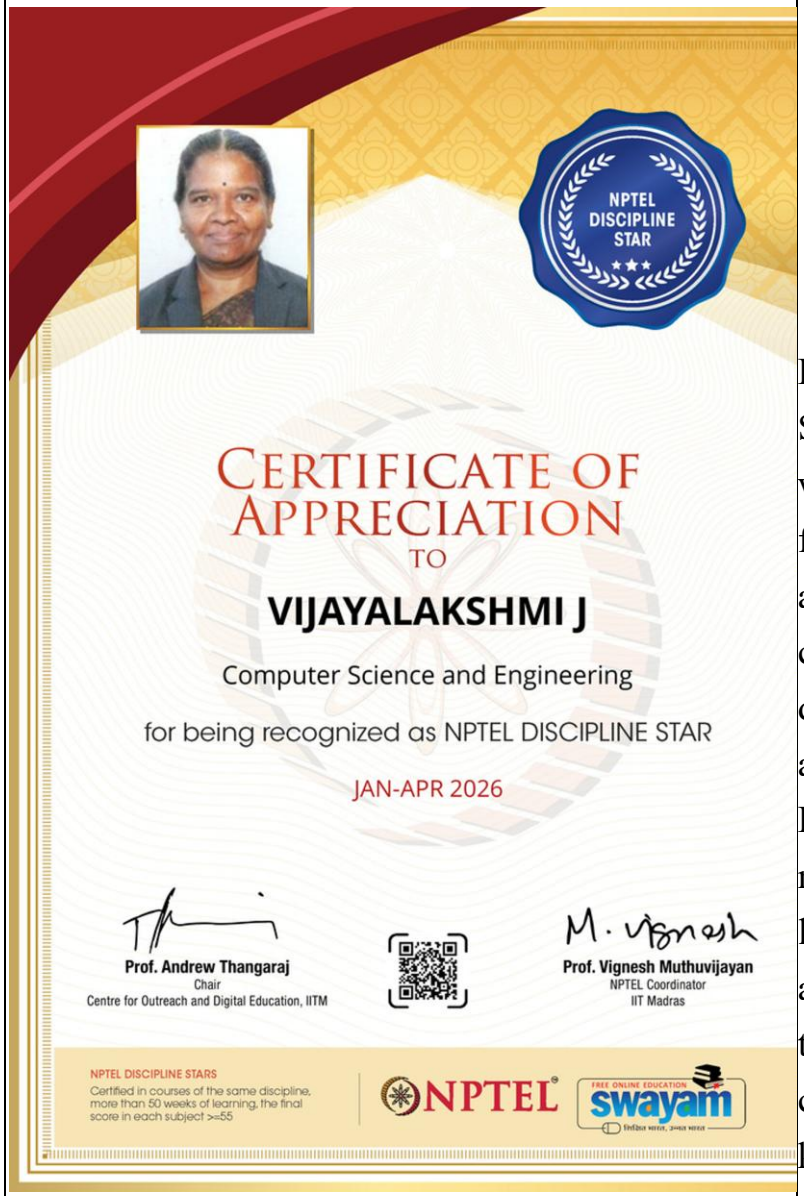
Ms. Padma Priya R, Ms. Sherin Ovia V, Ms. Priyadharshini K, Ms. Priyanka S, and Ms. Monika M (Batch: 2024–2028), students of the Department of Artificial Intelligence and Data Science, St. Joseph's College of Engineering, have been selected as GSSoC (GirlScript Summer of Code) 2026 Campus Ambassadors, recognizing their leadership, technical excellence, and commitment to promoting open-source learning.

Mohammed Thameem S, a student of the Department of Artificial Intelligence & Data Science, St. Joseph's College of Engineering, has achieved a remarkable distinction by being selected for the prestigious Google Summer of Code (GSoC) 2026 under the Open Source AI/Agents Track. Chosen from a highly competitive pool of over 35,000 applications received worldwide, his selection is a testament to his exceptional programming skills, dedication,

and passion for open-source development. The program, scheduled from 15 May 2026 to 14 August 2026, provides participants with the opportunity to contribute to real-world.

2.	**STAFF NPTEL CERTIFICATION/ STAFF ACHIEVEMENTS** 	Dr. L. Sherly Pushpa Annabel, HOD and Professor of the Department of Artificial Intelligence & Data Science, St. Joseph's College of Engineering, has successfully earned the prestigious SWAYAM–NPTEL Domain Certification in Data Science. This certification was awarded upon successfully completing a comprehensive set of NPTEL courses offered by premier institutions, including IIT Madras, IIT Kharagpur, IIT Delhi, IIT Bombay, IIT Ropar, and IIT Mandi. The certification covered key areas such as Machine Learning, Data Science for Engineers, Python for Data Science, Large Language Models (LLMs), Deep Learning, Business Intelligence & Analytics, and Data Mining for Decision Making.

Dr. L. Sherly Pushpa Annabel, HOD and Professor of the Department of Artificial Intelligence & Data Science, St. Joseph's College of Engineering, has been honored with the prestigious NPTEL Discipline Star recognition for the period January–April 2026. This distinction is awarded to learners who successfully complete multiple NPTEL courses within a specific discipline, accumulate more than 50 weeks of learning, and achieve a minimum qualifying score in each course. The recognition highlights her dedication to continuous professional development and her commitment to enhancing expertise in the field of Computer Science and emerging technologies.



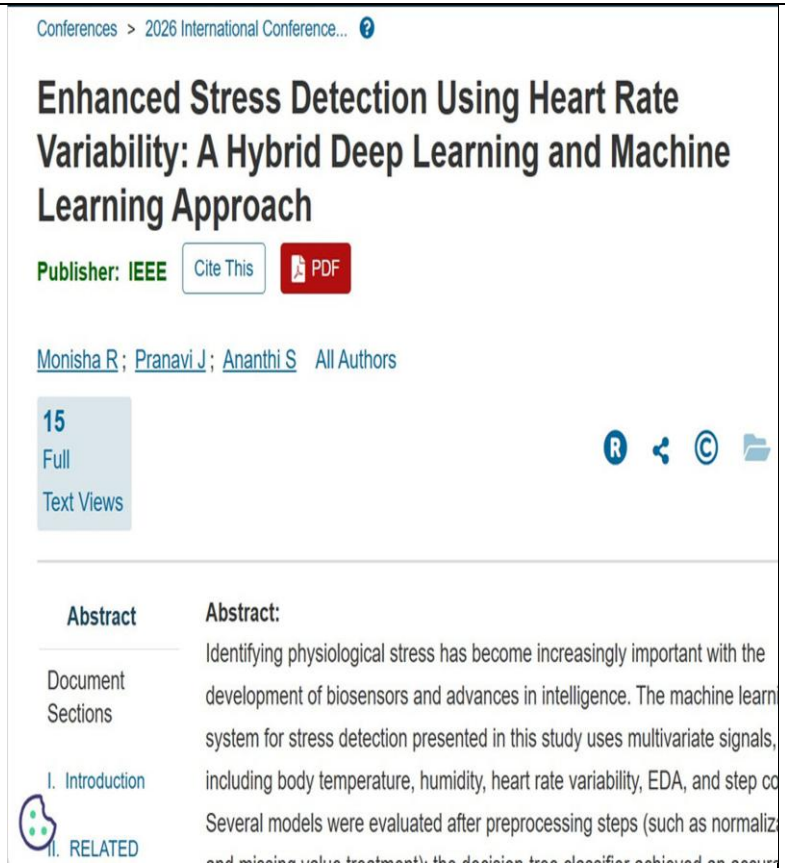
Dr J. Vijayalakshmi, Associate Professor of the Department of Artificial Intelligence & Data Science, St. Joseph's College of Engineering, has been honored with the prestigious NPTEL Discipline Star recognition for the period January–April 2026. This distinguished achievement is awarded to learners who successfully complete multiple NPTEL courses within a specific discipline, accumulate more than 50 weeks of learning, and secure the required qualifying scores in all courses. Her achievement serves as an inspiration to faculty members and students alike to actively pursue advanced learning opportunities through national platforms such as NPTEL. This remarkable achievement stands as a testament to Dr. J. Vijayalakshmi's dedication to continuous professional development and pursuit of knowledge.

		Dr J. Vijayalakshmi, Associate Professor of the Department of Artificial Intelligence & Data Science, St. Joseph's College of Engineering, has been honored with the prestigious NPTEL Super Star recognition for the period January–April 2026. This distinguished accolade is awarded to learners who excel in multiple NPTEL examinations and secure top ranks in at least three courses during a semester. The recognition highlights her exceptional academic performance, dedication to continuous learning, and commitment to professional excellence. This remarkable achievement serves as an inspiration to both faculty members and students to actively pursue advanced learning opportunities and strive for excellence. The Department of Artificial Intelligence & Data Science proudly congratulates Dr. J. Vijayalakshmi on this prestigious

		recognition and appreciates her dedication to academic growth and continuous professional development.
3.	**JOURNAL PUBLICATIONS(ONLY PUBLISHED) DETAILS**	

	Adaptive SE-attention ConvTransformer for Alzheimer's detection using MRI images **By** Kannan, S (Kannan, Sridharan) ; Alzubi, JA (Alzubi, Jafar A.) ; Rajakumar, MP (Rajakumar, M. P.) ; Venugopal, S (Venugopal, Sumanth) **Source** Journal on Advances in Signal Processing DOI: 10.1186/s13634-026-01344-w **Published** Jun 11 2026 **Indexed** 2026-06-14 **Document Type** Article **Abstract** Alzheimer's disease (AD) is a neurodegenerative disorder that damages brain cells if not recognized and treated early. AD is a chronic disease, but proper treatment in the early stage can help to manage AD. Deep learning models can examine magnetic resonance imaging (MRI) scans to predict significant modifications in the brain associated with AD. Thus, this work develops an automated model for AD detection using deep learning. Initially, MRI images are collected from standard datasets, such as the OASIS-based Kaggle repository and the augmented Alzheimer MRI dataset. These images are then given to the Adaptive Squeeze-and-Excitation Attention Module-based Conv-Transformer Network (ASEA-ConvTNet) for the AD detection process. The developed ASEA-ConvTNet incorporated the convolutional neural network (CNN) element with a transformer network to achieve global contextual data. Moreover, the Squeeze-and-Excitation (SE) block is used to develop a feature response in a channel manner to learn the interdependency between feature details. In this, the 'Adaptive' specifies the utilization of the renovated constant parameter of flower fertilization optimization (RCP-FFO) to optimize the model parameters during training. The RCP-FFO-based optimization process is influenced by the network to get the fine-tuned parameter value that helps to reduce the parameter usage and improve the performance. Thus, from the developed model, the AD-detected outcome is achieved. Then, performance and comparative analyses are performed using various measures and different algorithms. The developed system achieves accuracy rates of 94.9% and 93.5% on dataset 1 and dataset 2, respectively, based on the 3rd fold of a 5-fold cross validation method.	Dr. M. P. Rajakumar has achieved a distinguished academic milestone with the publication of his research paper titled "Adaptive SE-Attention ConvTransformer for Alzheimer's Detection Using MRI Images" in the Journal on Advances in Signal Processing. The research proposes an advanced deep learning framework that integrates Adaptive Squeeze-and-Excitation Attention with a ConvTransformer network to enhance the early detection of Alzheimer's disease from MRI images. By combining convolutional neural networks, transformer architecture, and optimization techniques, the proposed model delivers improved diagnostic accuracy and computational efficiency.

		Dr. J. Vijayalakshmi has achieved a distinguished academic milestone with the publication of her research paper titled "Energy Optimization in AIoT-Based Healthcare Monitoring Using Reinforcement Learning Variational Quantum Algorithm" in ICT Express, an internationally reputed Science Citation Index (SCI) journal published by Elsevier. The paper presents an innovative AIoT-based healthcare monitoring framework that integrates reinforcement learning and variational quantum algorithms to optimize energy efficiency while ensuring accurate and real-time patient monitoring. The publication in an SCI-indexed journal reflects the high quality, global visibility, and research impact of the work. The institution proudly congratulates Dr. J. Vijayalakshmi on this remarkable achievement and wishes her continued excellence in research, innovation, and scholarly contributions.
4.	STAFF CONFERENCE PRESENTATION and PATENT PUBLISHED	Students Monisha R. and Pranavi J., under the guidance of faculty member Ms. S. Ananthi, have achieved a significant academic milestone with the



Conferences > 2026 International Conference...

Enhanced Stress Detection Using Heart Rate Variability: A Hybrid Deep Learning and Machine Learning Approach

Publisher: IEEE | Cite This | PDF

Monisha R ; Pranavi J ; Ananthi S All Authors

15 Full Text Views

Abstract

Document Sections

I. Introduction

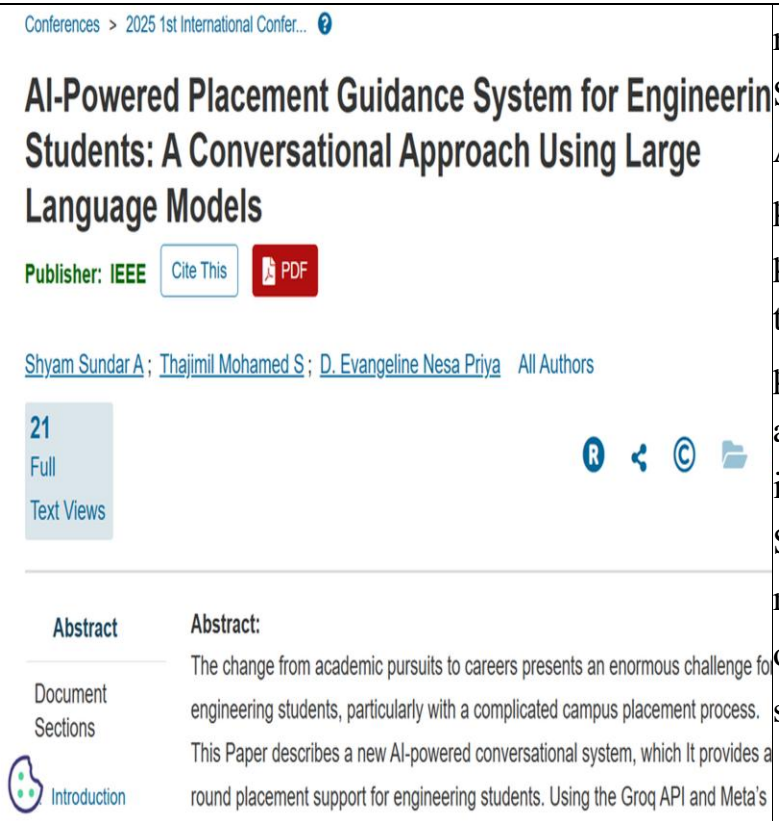
II. RELATED

Abstract:

Identifying physiological stress has become increasingly important with the development of biosensors and advances in intelligence. The machine learni system for stress detection presented in this study uses multivariate signals, including body temperature, humidity, heart rate variability, EDA, and step co Several models were evaluated after preprocessing steps (such as normaliz

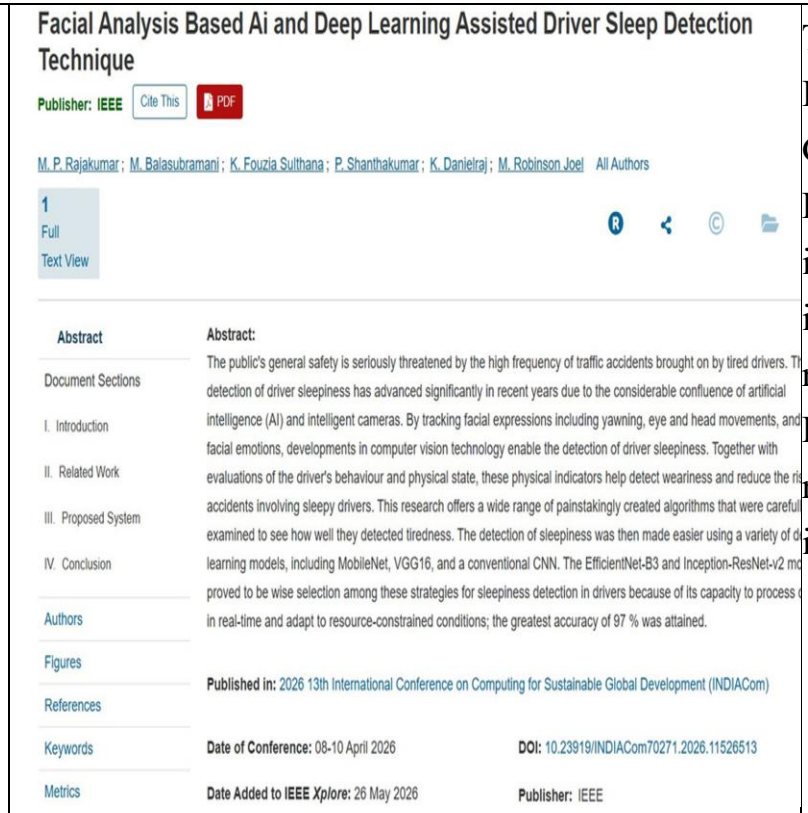
publication of their research paper titled "Enhanced Stress Detection Using Heart Rate Variability: A Hybrid Deep Learning and Machine Learning Approach" in the proceedings of an IEEE International Conference. The paper presents an innovative hybrid deep learning and machine learning framework for stress detection using physiological signals, contributing to advancements in intelligent healthcare systems. Following its publication, the research paper was also indexed in Scopus, reflecting its quality, scholarly impact, and international recognition within the global research community. open-source projects under the guidance of experienced mentors.

Students Shyam Sundar A. and Thajimil Mohamed S., under the guidance of faculty member Ms. D. Evangeline Nesa Priya, have achieved a remarkable academic milestone with the publication of their



research paper titled "AI-Powered Placement Guidance System for Engineering Students: A Conversational Approach Using Large Language Models" in the proceedings of an IEEE International Conference. The paper presents an intelligent placement guidance system that utilizes Large Language Models (LLMs) to provide personalized career guidance, interview preparation, and placement assistance for engineering students. The institution proudly congratulates students Shyam Sundar A. and Thajimil Mohamed S. along with faculty member Ms. D. Evangeline Nesa Priya on this outstanding achievement and wishes them continued success in their future research and academic endeavors.

Dr. M. P. Rajakumar has achieved another notable academic milestone with the publication of his research paper titled "Facial Analysis Based AI and Deep Learning Assisted Driver Sleep Detection



Facial Analysis Based Ai and Deep Learning Assisted Driver Sleep Detection Technique

Publisher: IEEE Cite This PDF

M. P. Rajakumar ; M. Balasubramani ; K. Fouzia Sulthana ; P. Shanthakumar ; K. Danielraj ; M. Robinson Joel All Authors

1 Full Text View

Abstract

Document Sections

I. Introduction

II. Related Work

III. Proposed System

IV. Conclusion

Authors

Figures

References

Keywords

Metrics

Abstract:

The public's general safety is seriously threatened by the high frequency of traffic accidents brought on by tired drivers. Th detection of driver sleepiness has advanced significantly in recent years due to the considerable confluence of artificial intelligence (AI) and intelligent cameras. By tracking facial expressions including yawning, eye and head movements, and facial emotions, developments in computer vision technology enable the detection of driver sleepiness. Together with evaluations of the driver's behaviour and physical state, these physical indicators help detect weariness and reduce the ri accidents involving sleepy drivers. This research offers a wide range of painstakingly created algorithms that were careful examined to see how well they detected tiredness. The detection of sleepiness was then made easier using a variety of d learning models, including MobileNet, VGG16, and a conventional CNN. The EfficientNet-B3 and Inception-ResNet-v2 mo proved to be wise selection among these strategies for sleepiness detection in drivers because of its capacity to process in real-time and adapt to resource-constrained conditions; the greatest accuracy of 97 % was attained.

Published in: 2026 13th International Conference on Computing for Sustainable Global Development (INDIACom)

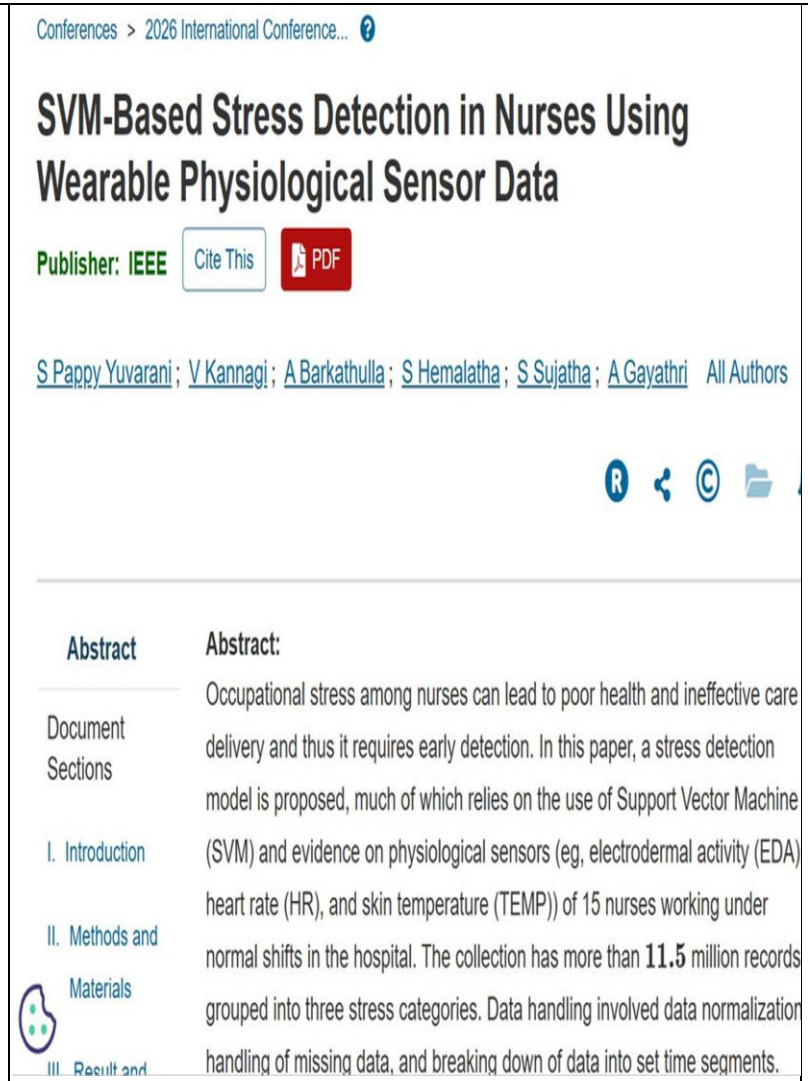
Date of Conference: 08-10 April 2026

DOI: 10.23919/INDIACom70271.2026.11526513

Date Added to IEEE *Xplore*: 26 May 2026

Publisher: IEEE

Technique" in the proceedings of the 2026 13th International Conference on Computing for Sustainable Global Development (INDIACom), published by IEEE. Following its publication, the paper has also been indexed in Scopus, highlighting its scholarly quality, international visibility, and impact within the global research community. This achievement reflects Dr. Rajakumar's continued dedication to pioneering research in artificial intelligence, computer vision, and intelligent transportation technologies.



Conferences > 2026 International Conference...

SVM-Based Stress Detection in Nurses Using Wearable Physiological Sensor Data

Publisher: IEEE | Cite This | PDF

S Pappy Yuvarani ; V Kannagi ; A Barkathulla ; S Hemalatha ; S Sujatha ; A Gayathri All Authors

Abstract

Document Sections

I. Introduction

II. Methods and Materials

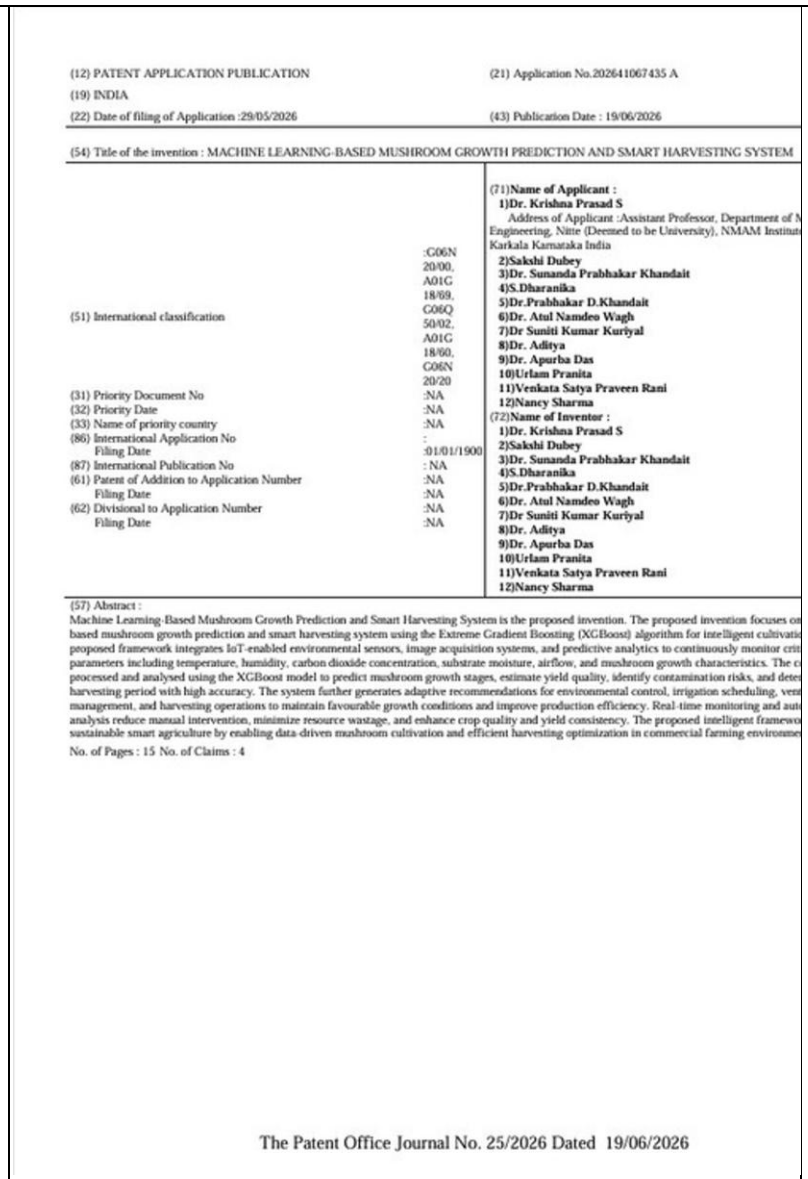
III. Result and

Abstract:

Occupational stress among nurses can lead to poor health and ineffective care delivery and thus it requires early detection. In this paper, a stress detection model is proposed, much of which relies on the use of Support Vector Machine (SVM) and evidence on physiological sensors (eg, electrodermal activity (EDA) heart rate (HR), and skin temperature (TEMP)) of 15 nurses working under normal shifts in the hospital. The collection has more than 11.5 million records grouped into three stress categories. Data handling involved data normalization handling of missing data, and breaking down of data into set time segments.

Dr. S. Hemalatha, faculty member of St. Joseph's College of Engineering, has successfully published a research paper titled "SVM-Based Stress Detection in Nurses Using Wearable Physiological Sensor Data" in the IEEE Conference Proceedings. The paper presents an innovative machine learning approach using Support Vector Machine (SVM) to detect occupational stress among nurses through wearable physiological sensor data, contributing to advancements in healthcare analytics and intelligent monitoring systems.

Ms. D. Evangeline Nesa Priya has achieved a significant academic milestone with the publication of her research paper titled "Memory Efficient Process Virtualization Framework for Lightweight Container Deployment in Edge Computing Platforms" in the proceedings of an IEEE International Conference. The paper proposes an innovative memory-efficient process virtualization framework to optimize lightweight container deployment in edge computing environments, addressing the challenges of latency-sensitive and resource-constrained applications.



(12) PATENT APPLICATION PUBLICATION

(19) INDIA

(22) Date of filing of Application :29/05/2026

(21) Application No.202641067435 A

(43) Publication Date : 19/06/2026

(54) Title of the invention : MACHINE LEARNING-BASED MUSHROOM GROWTH PREDICTION AND SMART HARVESTING SYSTEM

(51) International classification :G06N 20/00, A01G 18/69, G06Q 50/02, A01G 18/60, G06N 20/20

(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

(71)**Name of Applicant :**

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3)Dr. Sunanda Prabhakar Khandait

4)S.Dharanika

5)Dr.Prabhakar D.Khandait

6)Dr. Atul Namdeo Wagh

7)Dr Suniti Kumar Kuriyal

8)Dr. Aditya

9)Dr. Apurba Das

10)Urlam Pranita

11)Venkata Satya Praveen Rani

12)Nancy Sharma

(72)**Name of Inventor :**

1)Dr. Krishna Prasad S

2)Sakshi Dubey

3)Dr. Sunanda Prabhakar Khandait

4)S.Dharanika

5)Dr.Prabhakar D.Khandait

6)Dr. Atul Namdeo Wagh

7)Dr Suniti Kumar Kuriyal

8)Dr. Aditya

9)Dr. Apurba Das

10)Urlam Pranita

11)Venkata Satya Praveen Rani

12)Nancy Sharma

(57) Abstract :

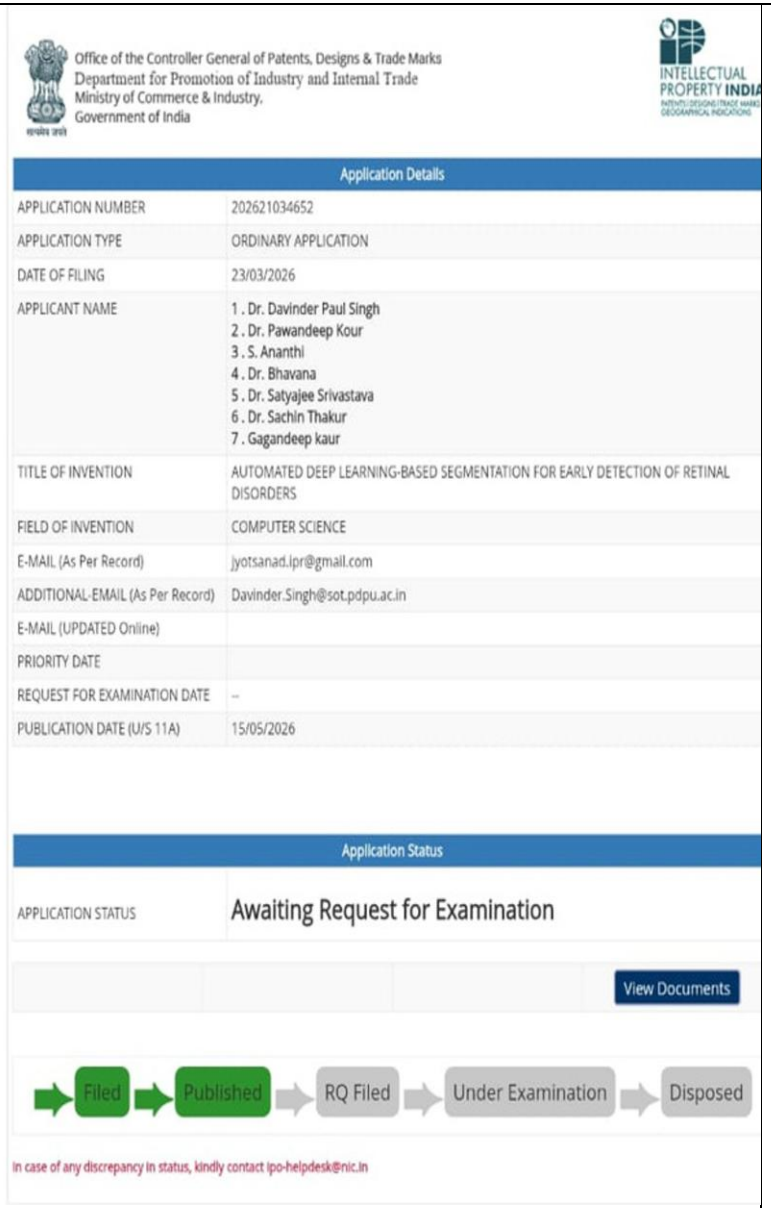
Machine Learning-Based Mushroom Growth Prediction and Smart Harvesting System is the proposed invention. The proposed invention focuses on based mushroom growth prediction and smart harvesting system using the Extreme Gradient Boosting (XGBoost) algorithm for intelligent cultivati proposed framework integrates IoT-enabled environmental sensors, image acquisition systems, and predictive analytics to continuously monitor crit parameters including temperature, humidity, carbon dioxide concentration, substrate moisture, airflow, and mushroom growth characteristics. The c processed and analysed using the XGBoost model to predict mushroom growth stages, estimate yield quality, identify contamination risks, and dete harvesting period with high accuracy. The system further generates adaptive recommendations for environmental control, irrigation scheduling, ven management, and harvesting operations to maintain favourable growth conditions and improve production efficiency. Real-time monitoring and aut analysis reduce manual intervention, minimize resource wastage, and enhance crop quality and yield consistency. The proposed intelligent framewo sustainable smart agriculture by enabling data-driven mushroom cultivation and efficient harvesting optimization in commercial farming environme

No. of Pages : 15 No. of Claims : 4

The Patent Office Journal No. 25/2026 Dated 19/06/2026

Ms. S. Dharanika from department of Artificial Intelligence and Data Science achieved a significant milestone with the publication of her patent titled “Machine Learning-Based Mushroom Growth Prediction and Smart Harvesting System” in the Patent Office Journal of India on 19 June 2026. The patented invention focuses on the application of machine learning techniques to enhance mushroom cultivation through intelligent growth prediction and automated harvesting support.

		Ms. S. Ananthi has achieved a significant academic milestone with the publication of her patent titled "Automated Deep Learning-Based Segmentation for Early Detection of Retinal Disorders" by the Indian Patent Office, Government of India. The patent, filed on 23 March 2026 and officially published on 15 May 2026, presents an innovative deep learning-based approach for the early detection and segmentation of retinal disorders, contributing to advancements in computer science and healthcare technology.



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	202621034652
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	23/03/2026
APPLICANT NAME	1 . Dr. Davinder Paul Singh 2 . Dr. Pawandeep Kour 3 . S. Ananthi 4 . Dr. Bhavana 5 . Dr. Satyajee Srivastava 6 . Dr. Sachin Thakur 7 . Gagandeep kaur
TITLE OF INVENTION	AUTOMATED DEEP LEARNING-BASED SEGMENTATION FOR EARLY DETECTION OF RETINAL DISORDERS
FIELD OF INVENTION	COMPUTER SCIENCE
E-MAIL (As Per Record)	jyotsanad.ipr@gmail.com
ADDITIONAL-EMAIL (As Per Record)	Davinder.Singh@sot.pdpu.ac.in
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	15/05/2026

Application Status

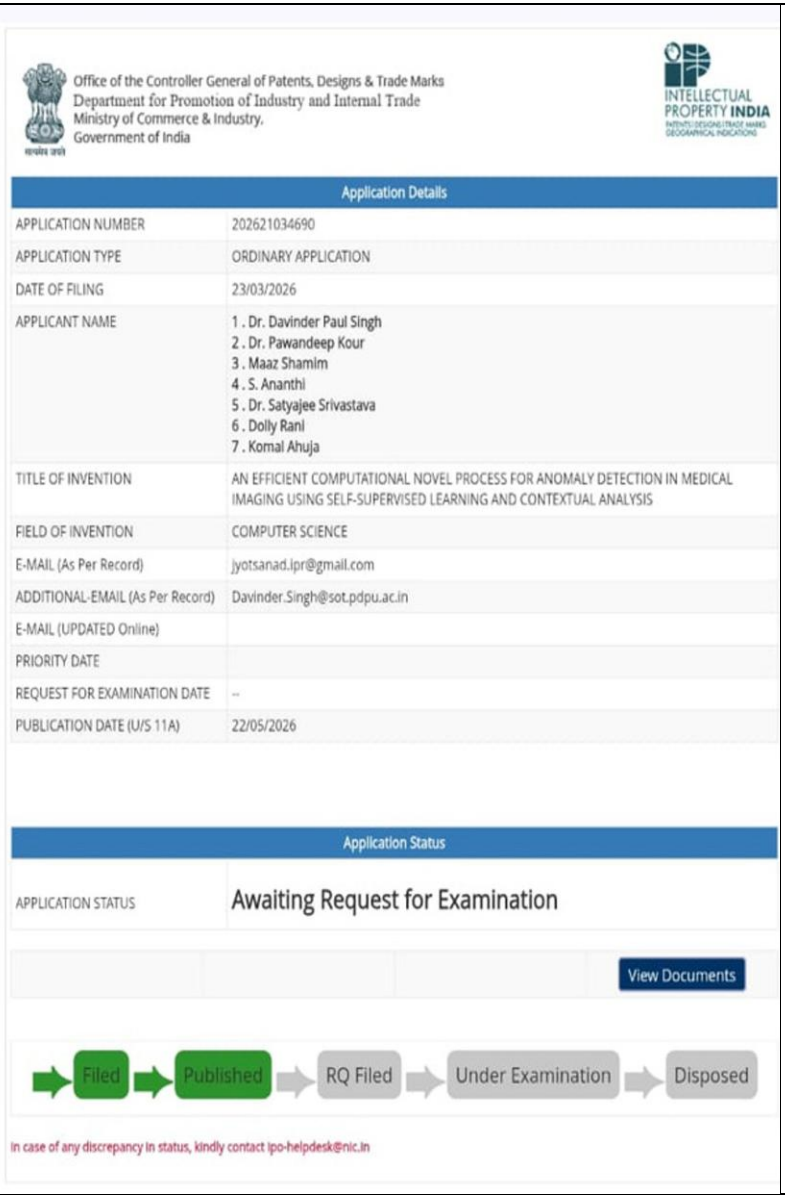
APPLICATION STATUS	Awaiting Request for Examination

View Documents

Filed → Published → RQ Filed → Under Examination → Disposed

In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in

Ms. S. Ananthi has added another notable achievement to her academic profile with the publication of her patent titled "An Efficient Computational Novel Process for Anomaly Detection in Medical Imaging Using Self-Supervised Learning and Contextual Analysis" by the Indian Patent Office, Government of India. The patent, filed on 23 March 2026 and officially published on 22 May 2026, presents an innovative computational framework that leverages self-supervised learning and contextual analysis to enhance anomaly detection in medical imaging. The publication reflects Ms. Ananthi's dedication to cutting-edge research and technological innovation.



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	202621034690
APPLICATION TYPE	ORDINARY APPLICATION
DATE OF FILING	23/03/2026
APPLICANT NAME	1 . Dr. Davinder Paul Singh 2 . Dr. Pawandeep Kour 3 . Maaz Shamim 4 . S. Ananthi 5 . Dr. Satyajee Srivastava 6 . Dolly Rani 7 . Komal Ahuja
TITLE OF INVENTION	AN EFFICIENT COMPUTATIONAL NOVEL PROCESS FOR ANOMALY DETECTION IN MEDICAL IMAGING USING SELF-SUPERVISED LEARNING AND CONTEXTUAL ANALYSIS
FIELD OF INVENTION	COMPUTER SCIENCE
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ADDITIONAL-EMAIL (As Per Record)	Davinder.Singh@sot.pdpu.ac.in
E-MAIL (UPDATED Online)	
PRIORITY DATE	
REQUEST FOR EXAMINATION DATE	--
PUBLICATION DATE (U/S 11A)	22/05/2026

Application Status	
APPLICATION STATUS	Awaiting Request for Examination

View Documents

Filed → Published → RQ Filed → Under Examination → Disposed

In case of any discrepancy in status, kindly contact ipo-helpdesk@nic.in

DEPARTMENT OF ARTIFICAL INTELLIGENCE AND MACHINE LEARNING

<table>
<tr><th>Sl. No.</th><th>Photographs Captured During Event</th><th>Corresponding remarks in regarding the status of activity execution</th></tr>
<tr><td></td><td>Certificates received by the Faculty

</td><td><u>Faculty Internship training</u>
<table><tr><th>S.No.</th><th>Name of the Course</th><th>Name of the Staff</th><th>Conducted By</th><th>Duration</th></tr><tr><td>1.</td><td>AI & ML</td><td>Dr. Adlin Sheeba</td><td>Automios, IITM</td><td>15.06.2026 to 20.06.2026</td></tr><tr><td>2.</td><td>AI & ML</td><td>Dr. Raman C J</td><td>Automios, IITM</td><td>15.06.2026 to 20.06.2026</td></tr><tr><td>3.</td><td>AI & ML</td><td>Dr. Ancy S</td><td>Automios, IITM</td><td>15.06.2026 to 20.06.2026</td></tr></table></td></tr>
</table>

1.	 	4.	AI & ML	Ms. Quba Jaslin C	Automios, IITM	15.06.2026 to 20.06.2026
		5.	AI & ML	Ms. Umayal AR	Automios, IITM	15.06.2026 to 20.06.2026
		6.	AI/ML	Ms. Deepa R	Automios, IITM	15.06.2026 to 20.06.2026
		7.	Responsible AI and ML in Emerging Technologies	Ms. Nithya K	Yakkay Technologies Pvt. Ltd.	18.06.2026 to 24.06.2026
		8.	Responsible AI and ML in Emerging Technologies	Ms. Nivi V	Yakkay Technologies Pvt. Ltd.	18.06.2026 to 24.06.2026
		9.	Responsible AI and ML in Emerging Technologies	Ms. Adlin Layola J A	Yakkay Technologies Pvt. Ltd.	18.06.2026 to 24.06.2026
		10.	Responsible AI and ML in Emerging Technologies	Dr. Manikandan G	Yakkay Technologies Pvt. Ltd.	22.06.2026 to 27.06.2026
		11.	Responsible AI and ML in Emerging Technologies	Ms. Kiruba Wesley	Yakkay Technologies Pvt. Ltd.	22.06.2026 to 27.06.2026

12.	Responsible AI and ML in Emerging Technologies	Ms. Thiraviaselvi G	Yakkay Technologies Pvt. Ltd.	22.06.2026 to 27.06.2026

Certificates received by the Faculty

FDP & PDP attended by Faculty

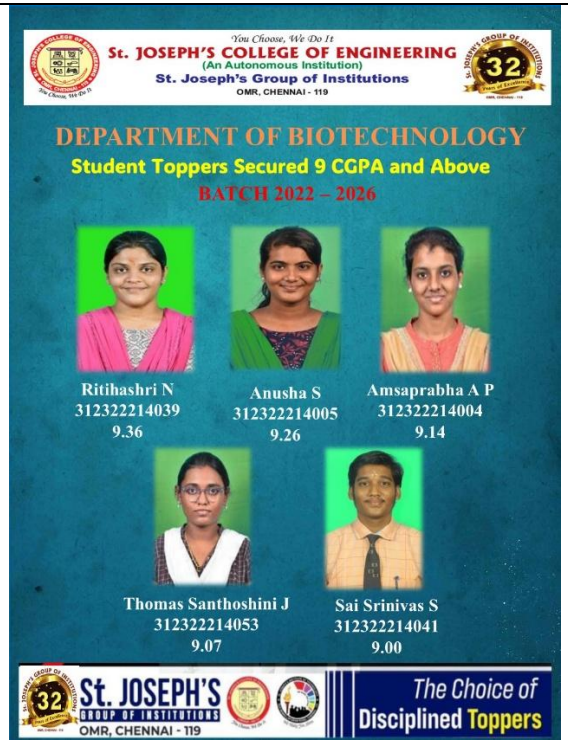
S.No.	Name of the FDP	Name of the Staff	Conducted By	Duration
1.	Deep Learning and Foundation Models for Vision, Language, Multimodal and Quantum AI	Ms. Kiruba Wesley	IITDM, Kancheepuram, Chennai	08.06.2026 to 13.06.2026
2.	Future-Ready iOS App Development for Educators and Researchers	Ms. Meena Kumari Bugatha N,	Panimalar Engineering College	15.06.2026 To 20.06.2026
3.	Future-Ready iOS App Development for Educators and Researchers	Ms. Bhuvaneshwari S,	Panimalar Engineering College	15.06.2026 To 20.06.2026

4.		4.	Future-Ready iOS App Development for Educators and Researchers	Mr. Nirmalkumar V	Panimalar Engineering College	15.06.2026 To 20.06.2026
		5.	Secure the Sprint: Where Agile Speed Meets Security	Ms. Poornima M	IITDM, Kancheepuram	08.06.2026 To 12.06.2026
		6.	Secure the Sprint: Where Agile Speed Meets Security	Ms. Quba Jaslin C	IITDM, Kancheepuram	08.06.2026 To 12.06.2026
		7.	Secure the Sprint: Where Agile Speed Meets Security	Ms. Thiraviaselvi G	IITDM, Kancheepuram	08.06.2026 To 12.06.2026
		8.	Secure the Sprint: Where Agile Speed Meets Security	Ms. Meena Kumari Bugatha	IITDM, Kancheepuram	08.06.2026 To 12.06.2026
		10.	Secure the Sprint: Where Agile Speed Meets Security	Mr. Nirmalkumar V	IITDM, Kancheepuram	08.06.2026 To 12.06.2026
		11.	Secure the Sprint: Where Agile Speed Meets Security	Ms. Deepa R	IITDM, Kancheepuram	08.06.2026 To 12.06.2026
			Secure the Sprint: Where Agile Speed Meets Security	Ms. Nivi V	IITDM, Kancheepuram	08.06.2026 To 12.06.2026

		Secure the Sprint: Where Agile Speed Meets Security	Ms. Nithya K	IITDM, Kancheepuram	08.06.2026 To 12.06.2026
		Secure the Sprint: Where Agile Speed Meets Security	Ms. Adlin Layola J A	IITDM, Kancheepuram	08.06.2026 To 12.06.2026
		AI Horizons: Interdisciplinary Innovations for the Future	Ms. Quba Jaslin C	Mar Ephraem College of Engineering and Technology	08.06.2026 To 13.06.2026

DEPARTMENT OF BIOTECHNOLOGY

S.No.	Title of the Events and Photographs	Details of the Event
1.	**STUDENT ACHIEVEMENTS** **A copy of proof**	Gerald Adarsh K (Batch 2023–2027) from the Department of Biotechnology has secured a 6-month internship with a full-time employment offer as a Systems Engineer at EdgeVerve Systems Limited, a wholly-owned product subsidiary of Infosys, with an annual compensation package of ₹3.60 lakhs upon successful completion of the internship.



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Our Biotechnology students have showcased academic excellence by securing good grades in the end semester examinations, reflecting their dedication and strong conceptual understanding.

Our third-year student (Batch 2023-2027), Jafferin D.R has secured 2nd position (State Level) in Chennai Regional Round of the Maria Philip Future Leader Debate at XIME, Chennai, with the cash prize of Rs. 10,000.

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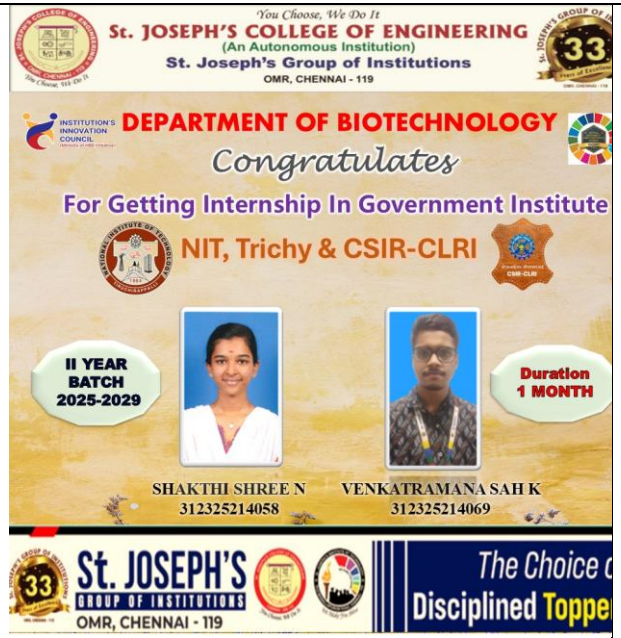
We are delighted to announce that our students have been selected for internships at prestigious Government research institutions, including Siddha Central Research Institute, CSIR–CLRI, CSIR-CFTRI, ICMR–NIRT, and NIT Trichy.

Ms. Vardhini C and Ms. Vaaishnavi C from the Department of Biotechnology have been selected for the prestigious IIT Madras Summer Fellowship Programme 2026 in the Department of Biotechnology. The two-month research fellowship, conducted from 18 May 2026 to 17 July 2026, provides an opportunity to undertake guided research projects under the mentorship of IIT Madras faculty members with a stipend of ₹15,000 per month.



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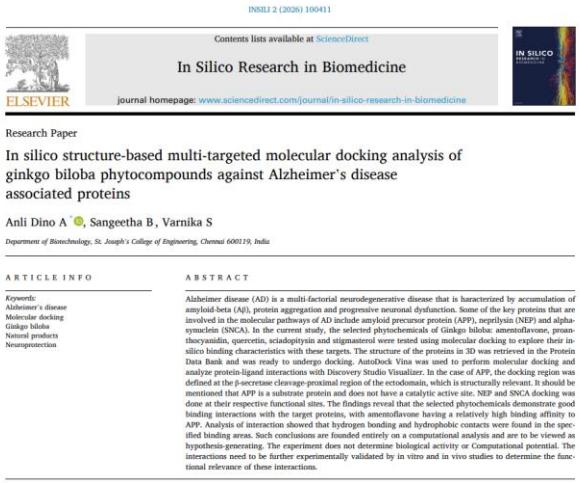
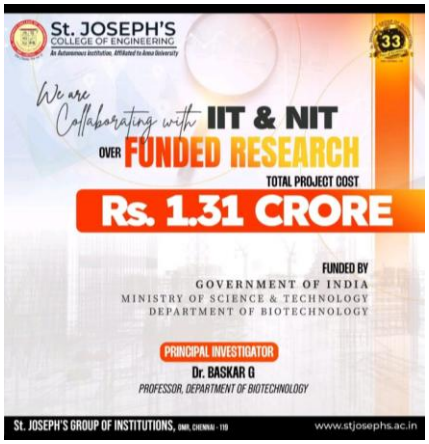
	PAPER PUBLICATIONS/ BOOK CHAPTERS 	Dr. S. Justin Packia Jacob from the Department of Biotechnology published a research article entitled "In Silico Molecular Docking Analysis of Phytochemicals from Phaseolus vulgaris Against Cancer-Associated Target Proteins" in the journal In Silico Research in Biomedicine.
2.	**A copy of proof** 	BioEnergy Research (2026) 19:95 https://doi.org/10.1007/s12155-026-11026-y **Valorization of Residual Macroalgal Biomass as Efficient Recyclable Biochar Catalyst for Biodiesel Production: Process Feasibility and Sustainability Assessment for Industrial Application** Ravichandran Pravin[1] · Gurunathan Baskar[1,2] · Baskaran Sangeetha[1] · Navnit Kumar Ramamoorthy[3] Received: 21 August 2025 / Accepted: 20 June 2026 © The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2026 **Abstract** The present research work was focused on the biodiesel production from marine macroalgae *Ulva intestinalis* biooil using the synthesized catalyst from the de-oiled macroalgal biomass. The process optimization studies resulted in highest biodiesel yield of 93.1% with 12:1 methanol to oil molar ratio, 5.5% (w/w) catalyst concentration, 65 °C process temperature and 92 min process time. The kinetic and thermodynamic study highlighted a ΔH° value of 6.85 KJ/mol, signifying a moderately endothermic reaction. The economic analysis revealed an internal rate of return of 16.48% and a payback period of 6.12 years. The estimated total CO_2 emission was found to be 0.18 kg per kg of biodiesel produced. The findings provided insights for scaling the industrial biodiesel production processes while also achieving the overall economic feasibility and lowering the environmental impacts. This research creates the path for meeting the India's bioenergy needs, limiting the carbon emissions and contributing to sustainability goals. **Keywords** Biodiesel · Optimization · Characterization · Economic analysis · Carbon emissions Dr. G. Baskar and Dr. B. Sangeetha from the Department of Biotechnology published a research article entitled "Valorization of Residual Macroalgal

	A copy of proof **A copy of proof**	Biomass as Efficient Recyclable Biochar Catalyst for Biodiesel Production: Process Feasibility and Sustainability Assessment for Industrial Application" in the journal BioEnergy Research.  INSILI 2 (2026) 100411 Contents lists available at ScienceDirect In Silico Research in Biomedicine journal homepage: www.sciencedirect.com/journal/in-silico-research-in-biomedicine Research Paper In silico structure-based multi-targeted molecular docking analysis of ginkgo biloba phytocompounds against Alzheimer's disease associated proteins Anli Dino A, Sangeetha B, Varnika S Department of Biotechnology, St. Joseph's College of Engineering, Chennai 600119, India ARTICLE INFO Keywords: Alzheimer's disease Molecular docking Ginkgo biloba Natural products Neuroprotection ABSTRACT Alzheimer disease (AD) is a multi-factorial neurodegenerative disease that is characterized by accumulation of amyloid-beta (Aβ), protein aggregation and progressive neuronal dysfunction. Some of the key proteins that are involved in the molecular pathways of AD include amyloid precursor protein (APP), neprilysin (NEP) and alpha-synuclein (SNCA). In the current study, the selected phytochemicals of Ginkgo biloba: amentoflavone, proanthocyanidin, quercetin, sciadopitysin and stigmasterol were tested using molecular docking to explore their in-silico binding characteristics with these targets. The structure of the proteins in 3D was retrieved in the Protein Data Bank and was ready to undergo docking. AutoDock Vina was used to perform molecular docking and analyze protein-ligand interactions with Discovery Studio Visualizer. In the case of APP, the docking region was defined at the β-secretase cleavage-proximal region of the ectodomain, which is structurally relevant. It should be mentioned that APP is a substrate protein and does not have a catalytic active site. NEP and SNCA docking was done at their respective functional sites. The findings reveal that the selected phytochemicals demonstrate good binding interactions with the target proteins, with amentoflavone having a relatively high binding affinity to APP. Analysis of interaction showed that hydrogen bonding and hydrophobic contacts were found in the specified binding areas. Such conclusions are founded entirely on a computational analysis and are to be viewed as hypothesis-generating. The experiment does not determine biological activity or Computational potential. The interactions need to be further experimentally validated by in vitro and in vivo studies to determine the functional relevance of these interactions. Ms. Anli Dino A and Dr. B. Sangeetha from the Department of Biotechnology published a research article entitled "In Silico Structure-Based Multi-Targeted Molecular Docking Analysis of Ginkgo biloba Phytocompounds Against Alzheimer's Disease-Associated Proteins" in the journal In Silico Research in Biomedicine.

3.	**DBT FUNDING FOR INTERNATIONAL CONFERENCE** **A copy of proof**	Dr. G. Baskar, Professor (PI) and Dr.B.Sangeetha, Assistant Professor (Co-PI) from the Department of Biotechnology has successfully received a funded research project worth ₹1.31 crores in collaboration with IIT Madras and NIT Durgapur. The projects are supported by the Government of India through the Ministry of Science & Technology and the Department of Biotechnology. 
4.	**REVIEWER CERTIFICATE**	

	 A copy of proof	Dr. G. Baskar from the Department of Biotechnology has acted as a Reviewer for ABCD Index during the year 2026. In recognition of his valuable contribution to the peer-review process and his commitment to maintaining the quality of scientific publications, he has been awarded the Reviewer Certificate 2026. Dr. G. Baskar from Department of Biotechnology has served as a reviewer for a research manuscript entitled “Combustion Analysis of Soap Nut Biodiesel Blend (B20) in a CI Engine at Varying Compression Ratios.” In recognition of his valuable contribution to the peer-review process, a reviewer certificate was awarded on 04 June 2026.

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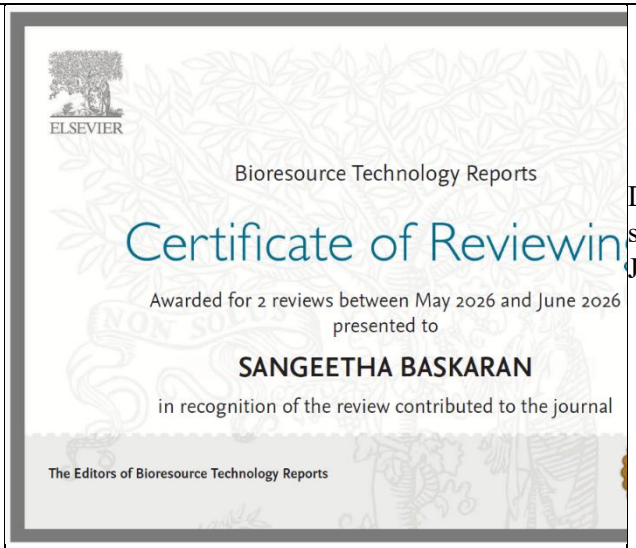
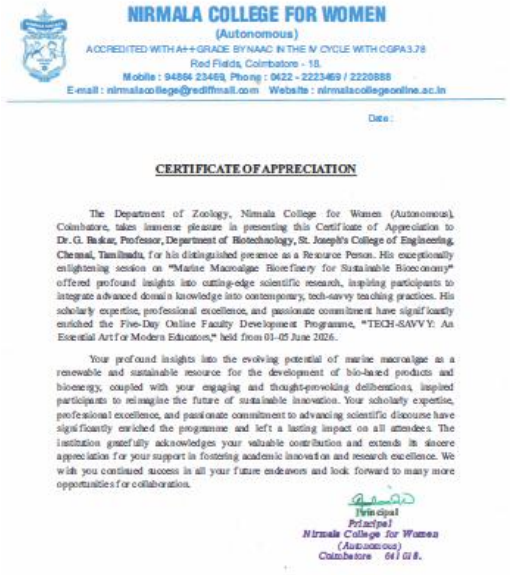
Dr. M. Chamundeeswari from Department of Biotechnology has served as a reviewer for a research manuscript in the journal Materials Today Communications. In recognition of her valuable contribution to the peer-review process, a reviewer certificate was awarded on June 2026.

A copy of proof

Dr. B.Sangeetha from Department of Biotechnology has served as a reviewer for a research manuscript in the journal 'Bioresource Technology Reports'. In recognition of her valuable contribution to the peer-review process in the consecutive months, a reviewer certificate was awarded for the month of May and June 2026.

	 **A copy of proof**	Dr. G. Baskar from Department of Biotechnology has served as a resource person for the session on "Marine Macroalgae Biorefinery for Sustainable Bioeconomy" during 01-05 June 2026.

	 NIRMALA COLLEGE FOR WOMEN (Autonomous) ACCREDITED WITH A++ GRADE BY NAAC IN THE IV CYCLE WITH CGPA 3.78 Red Fields, Coimbatore - 18. Mobile : 94864 23469, Phone : 0422 - 2223469 / 2220888 E-mail : nirmalacollege@rediffmail.com Website : nirmalacollegeonline.ac.in Date : CERTIFICATE OF APPRECIATION The Department of Zoology, Nirmala College for Women (Autonomous), Coimbatore, takes immense pleasure in presenting this Certificate of Appreciation to Dr. G. Baskar, Professor, Department of Biotechnology, St. Joseph's College of Engineering, Chennai, Tamilnadu, for his distinguished presence as a Resource Person. His exceptionally enlightening session on "Marine Macroalgae Biorefinery for Sustainable Bioeconomy" offered profound insights into cutting-edge scientific research, inspiring participants to integrate advanced domain knowledge into contemporary, tech-savvy teaching practices. His scholarly expertise, professional excellence, and passionate commitment have significantly enriched the Five-Day Online Faculty Development Programme, "TECH-SAVVY: An Essential Art for Modern Educators," held from 01-05 June 2026. Your profound insights into the evolving potential of marine macroalgae as a renewable and sustainable resource for the development of bio-based products and bioenergy, coupled with your engaging and thought-provoking deliberations, inspired participants to reimagine the future of sustainable innovation. Your scholarly expertise, professional excellence, and passionate commitment to advancing scientific discourse have significantly enriched the programme and left a lasting impact on all attendees. The Institution gratefully acknowledges your valuable contribution and extends its sincere appreciation for your support in fostering academic innovation and research excellence. We wish you continued success in all your future endeavors and look forward to many more opportunities for collaboration. Principal Principal Nirmala College for Women (Autonomous) Coimbatore 641 018. **A copy of proof**	
5.	**INDUSTRY INTERACTION BY FACULTY** You Choose, We Do It St. JOSEPH'S COLLEGE OF ENGINEERING (An Autonomous Institution) St. Joseph's Group of Institutions OMR, CHENNAI - 119 DEPARTMENT OF BIOTECHNOLOGY INDUSTRY INTERACTION VISITED by Dr. S. Justin Packia Jacob 23.06.2026 01 GNOSIS RESEARCH CENTRE 02 SYMBIOEN LABS 03 CRESCENT INNOVATION INCUBATION CENTRE 04 Dr. APJ Abdul Kalam Center of Excellence in Innovation and Entrepreneurship OUTCOMES OF INDUSTRY INTERACTION Internship Training Placement Opportunities MoU Collaboration Academic & Research Partnership Strengthened Industry Connect St. JOSEPH'S The Choice of Disciplined Toppers	Dr. S. Justin Packia Jacob from the Department of Biotechnology Visited Gnosis Research Centre, Simbioen Labs, Crescent Innovation Incubation Centre and Dr. APJ Abdul Kalam Centre of Excellence in Innovation and Entrepreneurship to foster internships, placements, and collaborative partnerships.

	A copy of proof	
6.	**ONLINE FDP** CHENNAI RAMAPURAM SRM SRM INSTITUTE OF SCIENCE AND TECHNOLOGY, RAMAPURAM, CHE FACULTY OF ENGINEERING AND TECHNOLOGY DEPARTMENT OF BIOTECHNOLOGY CERTIFICATE OF PARTICIPATION THIS IS TO CERTIFY THAT Dr. S. Justin Packia Jacob has successfully participated in the One week Online Faculty Development Progra on Bioinformatics, Artificial Intelligence and Data Science in Biotechnology: Fro Research to Revenue, organized by Department of Biotechnology, SRM Institute Science and Technology, Ramapuram, Chennai - 600 089, held on 01-06-2026 to 08-06-2026 CO-CONVENOR CONVENOR **A copy of proof**	Dr. S. Justin Packia Jacob from Department of Biotechnology has participated in a One-Week Online Faculty Development Programme (FDP) on “Bioinformatics, Artificial Intelligence and Data Science in Biotechnology: From Research to Revenue.” at SRM Institute of Science and Technology (SRMIST), Ramapuram Campus, Chennai from 01 June 2026 to 08 June 2026.

CHENNAI RAMAPURAM
SRM

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY, RAMAPURAM, CHENNAI
FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE OF PARTICIPATION

THIS IS TO CERTIFY THAT

Dr. M.Chamundeeswari

has successfully participated in the **One week Online Faculty Development Program on Bioinformatics, Artificial Intelligence and Data Science in Biotechnology: From Research to Revenue**, organized by Department of Biotechnology, **SRM Institute of Science and Technology**, Ramapuram, Chennai - 600 089,
held on 01-06-2026 to 08-06-2026

CO-CONVENOR CONVENOR

CO-CONVENOR CONVENOR

A copy of proof

Dr. G. Baskar from Department of Biotechnology has participated in a One-Week Online Faculty Development Programme (FDP) on “Bioinformatics, Artificial Intelligence and Data Science in Biotechnology: From Research to Revenue.” at SRM Institute of Science and Technology (SRMIST), Ramapuram Campus, Chennai from 01 June 2026 to 08 June 2026.

Dr. M. Chamundeeswari from Department of Biotechnology has participated in a One-Week Online Faculty Development Programme (FDP) on “Bioinformatics, Artificial Intelligence and Data Science in Biotechnology: From Research to Revenue.” at SRM Institute of Science and Technology (SRMIST), Ramapuram Campus, Chennai from 01 June 2026 to 08 June 2026.

DEPARTMENT OF CHEMICAL ENGINEERING

S.No.	Title of the Events and Photographs	Details of the Event
1	**CORE PLACEMENT TRAINING PROGRAMME**	The Department of Chemical Engineering, , successfully inaugurated the **POP II – Core Placement Training Programme in collaboration with the Chem Skill Development Centre (CSDC), Chennai**. The intensive ten-day programme was conducted from 16 June 2026 to 25 June 2026 at the Center for Innovation, 9th Block. The programme aimed to equip students with industry-oriented technical knowledge and enhance employability skills for core chemical engineering sectors. Training covered **Chemical Thermodynamics, Fluid Mechanics, Heat and Mass Transfer, Chemical Reaction Engineering, Process Control, Process Safety, and Industrial Operations**. Practical case studies, real industrial scenarios, and process optimization techniques were incorporated. The programme also included aptitude training, communication skills, resume preparation, group discussions, interview handling, personality development, teamwork, and professional ethics. Interaction with senior industry professionals provided insights into plant operations, workplace culture, safety standards, career opportunities, and emerging trends.
2	**STUDENT ACHIEVEMENT – ACADEMIC EXCELLENCE**	St. Joseph's College of Engineering proudly congratulates the outstanding academic achievers of the Department of Chemical Engineering for their exceptional performance in the University examinations. Students from **II, IV, and VI Semesters who secured 8.5 CGPA** and above demonstrated strong academic performance and consistent learning. **Guru Charan R emerged as the** II **Semester topper with 9.68 CGPA, Gokulalakshmi A G** secured the highest CGPA in the IV Semester with 9.51 CGPA, and **Shree Ram A stood first in the VI Semester with 9.15** CGPA. A total of 46 students across the three semesters achieved 8.5 CGPA and above. The achievement reflects the department's outcome-based teaching methodology, regular mentoring, and student-centred learning environment.

3	**SCHOOL OUTREACH PROGRAMME**	As part of the Department of Chemical Engineering's school outreach initiative, Ms. R. Lavanya, Assistant Professor, visited various schools to discuss academic awareness and student development programmes. A total of five schools were visited: Maharishi Vidya Mandir, Revoor Padma School, Sankara Vidyalaya, Tharam Indujutha School, and St. Mary's School. Three schools showed interest in conducting the proposed programme, while two schools confirmed their willingness to host the programme. Current status: Total Schools Visited – 5; Schools Interested – 3; Confirmed Schools – 2; Pending Approval/Follow-up – 3. Continuous follow-up will be carried out to complete the scheduling process and strengthen the department's engagement with school students.
4	**ALUMNI INTERACTION – GLOBAL CAREER JOURNEY**	The Department of Chemical Engineering organized a special alumni interaction session on **22 June 2026**, featuring **Mr. Stanley Shaji**, a distinguished alumnus of the 2020 batch, currently serving as an Energy Sustainability Specialist at **The HEINEKEN Company, Hereford, England, United Kingdom.** He shared his professional journey and highlighted the importance of continuous learning, technical competence, adaptability, and perseverance. He explained how chemical engineering principles contribute to energy management, decarbonization, process optimization, and environmental stewardship. The interaction also covered international work culture, career opportunities in the United Kingdom, interview preparation, professional networking, higher studies, overseas employment opportunities, sustainability certifications, and career planning.

5	**STAFF ACHIEVEMENT**	**Dr. N. Venkatesh, Professor, Department of Chemical Engineering**, was selected for the **Centre for Engineering Education Excellence (CEEE) Programme 2026–27** organized by the Indian National Academy of Engineering (INAE). He was allotted IIT Indore under the Mechanical, Aerospace and Energy Engineering domain for the offline mentoring programme scheduled from 16 June 2026 to 26 June 2026. The department also congratulates **Dr. V. Renuka, Professor**, on the publication of her patent titled "**Photoactivated Nanocomposite Catalysts for Selective CO_2 Reduction to Value-Added Chemicals"** in the Indian Patent Office Journal. The application was filed on 25 May 2026 and published on 05 June 2026. Dr. N. Venkatesh was also recognized as an NPTEL Believer for the January–April 2026 semester by NPTEL–SWAYAM, IIT Madras, reflecting his commitment to continuous professional development and lifelong learning.

DEPARTMENT OF MECHANICAL ENGINEERING

Sl No	Name of the Activity	Remarks
1	**Faculty Acheivements**	➢ Dr. K. Arun, Associate Professor in the Department of Mechanical Engineering has published an article titled "Influence of aluminum foam core thickness on the mechanical and thermal properties of epoxy– carbon fiber mat sandwich composites" in "Mechanics of Advanced Materials and Structures", a Taylor & Francis Journal. (Scopus Indexed). ➢ Dr. K. Arun, Associate Professor in the Department of Mechanical Engineering has published an article titled "Multi-Layer Aluminum– Polymer Hybrid Structures for Improved Automotive Impact Performance" in "Journal of Polymer & Composites". (WOS Indexed) Dr. K. Arun, Associate Professor in the Department of Mechanical Engineering has published an article titled "Corn Husk Fiber–Reinforced PLA Biocomposites Mechanical, Thermal, and Biodegradation Performance" in "Journal of Polymer & Composites". (WOS Indexed) ➢ Dr. K. Arun, Associate Professor in the Department of Mechanical Engineering has published a patent titled "A Thermoelectric Energy Recovery System and Method for

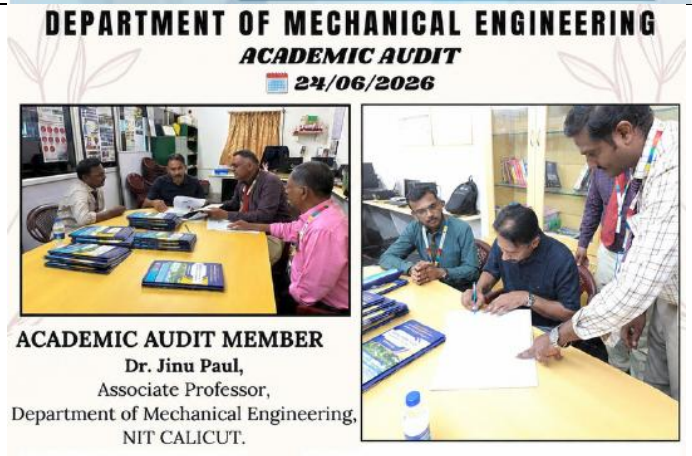
		Harvesting Waste Heat from Internal Combustion Engines". (Application No.202641011722 A). ➢ Dr. K. Arun, Associate Professor in the Department of Mechanical Engineering has published a patent titled "A System and Method for Minimizing Power Loss in Electric Motor Control Systems Using Adaptive Intelligent Optimization". (Application No.202641034421 A). ➢ Dr. K. Arun, Associate Professor in the Department of Mechanical Engineering has published a patent titled "Smart Electric Vehicle Powertrain System with Adaptive Energy Management". (Application No.202631060489 A). ➢ Dr. K. Arun, Associate Professor in the Department of Mechanical Engineering has published a patent titled "A Systematic Approach for Optimizing Copper Tube – Aluminium Finned Heat Exchanger Performance". (Application No.202641061602 A) ➢ Dr. K. Arun, Associate Professor in the Department of Mechanical Engineering has published a book chapter titled "A Differentiation of Energy Storage Methods" in the book "Machine Learning for Sustainable Energy Solutions" published by Wiley Online Library. (Scopus Indexed) ➢ Dr. G. M. Lionus Leo, Associate Professor in the Department of Mechanical Engineering, has published a research article titled “Waste-derived nanomaterials for

		energy storage and water remediation: Structure– property–performance relationships" in the journal Environmental Progress and Sustainable Energy. ➢ Mr. K. Gnanasekaran, Assistant Professor from the Department of Mechanical Engineering has Published a paper entitled, Investigating the performance and emission properties of orange peel methyl esters in CI engine Scopus Indexed AIP Conference Proceedings ,volume 34455,Issue 1 ➢ Mr. K.Gnanasekaran, Assistant Professor from the Department of Mechanical Engineering received an NPTEL–SWAYAM Certificate of Appreciation as a "Mentor" for the course "Material science and Engineering" (Jan–Apr 2026). ➢ Mr. KMB. Karthikeyan Assistant Professor from the Department of Mechanical Engineering Reviewed an eBook proposal entitled "Lightweight High Entropy Alloys: Design, Processing, and Emerging Applications, Bentham Science Publisher. ➢ Mr.KMB. Karthikeyan Assistant Professor from the Department of Mechanical Engineering Reviewed "Tribological behavior of AlCoCrFeNi high-entropy alloy particle reinforced aluminum matrix composites at room and cryogenic temperature: synergistic effects of reinforcement content" to Advanced Engineering Materials, part of Wiley's Advanced Portfolio of high impact collaborative journals

		➢ Dr. G. Ashwin Prabhu, Assistant Professor from the Department of Mechanical Engineering received an NPTEL–SWAYAM Certificate of Appreciation as a "Mentor" for the course “Mechanics of Sheet Metal Forming” (Jan–Apr 2026). ➢ The Department of Mechanical Engineering congratulates Mr. N. Sathishkumar, Assistant Professor and PEP Faculty – CAD & 3D Printing, on being recognised as an NPTEL Top Performing Mentor for the course Product Engineering and Design Thinking during January–April 2026. This achievement reflects his committed mentorship and contribution to student learning and academic excellence. ➢ Mr. N. Sathishkumar, Assistant Professor, has successfully completed the peer review assignments for research articles submitted to the "Journal of the Chinese Institute of Engineers" and "Journal of the Brazilian Society of Mechanical Sciences and Engineering". ➢ Dr N ArunKumar, Professor & Dean Industry Collabration & IQAC and Mr R Elakkiyadasan, Assistant Professor from the Department of Mechanical Engineering has published an article entitled "Process parameter optimisation and correlative metallurgical characteristics validation of fibre laser welding on nickel-based superalloy" , SCI Indexed., Q2 Journal in Canadian Metallurgical Quarterly. ➢ Mr.M.Subramanian, Full time Research Scholar and Dr.

		Arunkumar N, Professor & Dean Industry Collabration & IQAC from Department of Mechanical Engineering have published an article titled "Design of Corrosion-Resistant Mg-Li Alloys through Bayesian-mTPE Optimized Machine Learning models" in SCI Indexed Journal, Electrochimica Acta (IF: 5.6, Q1 Journal). ➢ Dr. Vaddi Seshagiri Rao, Professor & Principal from the Department of Mechanical Engineering Published an article titled "Thermal and Electrical Performance of Aluminum-Reinforced GFRP Composites", a Web of Science (ESCI) Indexed Journal on 29th June 2026.
2	Ph.D Viva Voce	➢ Mr. Pravinkumar Kamatchi, Assistant Professor, Department of Mechanical Engineering, successfully defended his Ph.D. Viva-Voce on 24 June 2026 for his research titled “Experimental Investigation and Optimization of Bobbin Tool Friction Stir Welding on Dissimilar Aluminium Alloys” under the guidance of Dr. Vaddi Seshagiri Rao, Professor & Principal, Department of Mechanical Engineering, St. Joseph’s College of Engineering, Chennai.

3		➢ Mr. R. Elakkiyadasan, Assistant Professor, Department of Mechanical Engineering, has earned the prestigious SWAYAM–NPTEL Domain Certification (Minor in Metallurgy) and has also been recognized as an NPTEL Discipline Star for the Jan–Apr 2026 session. These remarkable achievements reflect his commitment to academic excellence, continuous professional development, and expertise in Metallurgy and Materials Science. The Department of Mechanical Engineering congratulates him on this outstanding accomplishment and wishes him continued success in all his future endeavors.

4		➢ Our Department Faculty member Mr. N. Sathishkumar, Assistant Professor has been honored with the NPTEL Top Performing Mentor Recognition for the January–April 2026 session for his mentoring of the 12-week course "Product Engineering and Design Thinking," under whose guidance one of the enrolled students also secured the prestigious "Elite + Gold Medal" certification from NPTEL.
5		➢ On 24 June 2026, Department of Mechanical Engineering had an external academic audit, Dr. Jinu Paul, Associate Professor from Department of Mechanical Engineering, NIT, Calicut verified our files and gave valuable insight for upcoming NBA audit

6		➢ Department of Mechanical Engineering organized a demo hands on training session on newly purchased pin on disc setup on 17/06/2026, Faculty members from mechnical despartment got exposed to the training and will be utilized for research purpose.
7	Industry Institute Interaction 	➢ Dr. N. Arunkumar, Professor & Dean Industry Collabration & IQAC along with Mr. KMB. Karthikeyan, Assistant Professor, Department of Mechanical Engineering Visited Hinduja Tech Mobililty Engineering Division perungalathur on 19/06/2026 and had discussion with Mr. Srinivasan Vinayagam, General Manager, Talent Acquisition, & Mr. Nedunchezian, Deputy Genaral Manager on MoU, Internship, Placement and Consultancy

		➢ The Department of Mechanical Engineering, St. Joseph's College of Engineering, organized an Industry–Academia Interaction with FANUC India Pvt. Ltd., Bengaluru. The institution had the privilege of welcoming Mr. Vinay Kumar M.K., Vice President – Industry Institute Relations, and Mr. Jaiker Neil Fernandez, Manager – Industry Institute Relations. The interaction focused on strengthening collaboration in industrial automation, robotics, and skill development for engineering students. The session paved the way for future partnerships, training initiatives, and enhanced industry exposure, empowering students with skills aligned to modern manufacturing technologies.
	School outreach program	➢ The Department of Mechanical Engineering, in association with The Institution of Engineers (India), successfully organized a One-Day School Outreach Program on: Drone Technology, CAD Modelling, 3D & 4D Printing. Venue: MCC Campus Matriculation Higher Secondary School, Tambaram 🗓 Date: 10 June 2026 (Wednesday) The program offered students valuable insights into emerging engineering technologies through interactive sessions and live demonstrations. The event successfully inspired more than 100 young minds to explore innovation, design, and technological advancements in engineering.

DEPARTMENT OF MECHANICAL ENGINEERING
In association with
The Institution of Engineers (India)
Organized One Day School outreach program on
Drone Technology, CAD modelling and
3D&4D Printing
Faculties:
Dr. T. Gavaskar, M.E., Ph.D
Assistant Professor,
Mechanical Engineering.
Faculties:
Mr.D.Sakthivel,M.E.,
Assistant Professor,
Mechanical Engineering.
Faculties:
Mr.M.Siva,M.E.,
Assistant Professor,
Mechanical Engineering.
Faculties:
Mr.N.Sathishkumar,M.E.,
Assistant Professor,
Mechanical Engineering.
MCC Campus Matriculation Higher Secondary School,Tambaram
10/06/2026, Wednesday

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

Sl. No.	Photographs Captured During Events	Corresponding remarks (Minimum 300 words)
1.	**IEEE activities** **PIC: EVENT POSTER & PHOTO**	The IEEE Special Interest Group on Humanitarian Technology (SIGHT) of IEEE SJCE Student Branch Chapter (SBC), in collaboration with the Department of Electrical and Electronics Engineering, successfully organized a thought-provoking webinar on "**Real-World Applications of Secure Communication Systems in Defense and Public Service"** on 03.06.2025 at St. Joseph's College of Engineering. The session was led by **Mr. Yuvan Karthi R, a postgraduate student in defense technology and the founder of HAM Mentor, Coimbatore, Tamil Nadu**. Participants gained valuable insights into advanced encryption techniques, data protection mechanisms, and real-time communication strategies tailored for mission-critical environments. The speaker elaborated on security protocols used in the field and discussed real-world scenarios where secure communication systems proved vital in maintaining confidentiality and resilience. The session emphasized the significance of leveraging technology to bolster national security and the need for skilled professionals to understand and implement these systems effectively. It concluded with an engaging Q&A session, inspiring attendees to explore deeper into secure communication technologies as an emerging frontier in both public and defense infrastructure.

2.	**IEEE activities** **PIC: EVENT POSTER & PHOTO**	Department of EEE at St. Joseph's College of Engineering, in association with the IEEE Student Branch Chapter (SBC600101), IEEE Special Interest Group on Humanitarian Technology AG (SBAG81015), and IEEE MAS Special Interest Group on Humanitarian Technology AG, organized an expert talk on the topic **"AI-Powered Drone Solutions for Sustainable Agriculture in Rural Communities"** on 16th June 2025 from 5:00 PM to 6:00 PM. The session was delivered by **Mr. Rahul Ravikumar, Research Software Engineer at Safer kit, Chennai, Tamil Nadu.** The objective of the session was to introduce participants to the role of artificial intelligence-powered drones in transforming rural agriculture. The speaker explained how AI-driven drones can help farmers monitor crops more effectively, identify potential issues, and improve overall farm productivity in a cost-effective and privacy-conscious manner. He also emphasized how these technologies are particularly suitable for rural communities where traditional monitoring methods may not be feasible or affordable. The event provided students and faculty with valuable insights into the use of modern technology in sustainable agriculture .
3.	**IEEE activities**	IEEE POWER ELECTRONICS SOCIETY MADRAS CHAPTER PEL35 (CH10352) in association with IEEE POWER ELECTRONICS SOCIETY SJCE SB (SBC60101C), conducted a webinar session "POWERXPLORE - The Conversion Intelligence Series" on 16th June 2025. The topic for the session was **"Power Converters and Control Strategies for Wind Energy Conversion Systems"**, presented by **Ms. Tripura Pidikiti, Chair, IEEE IES Chapter – Hyderabad Section.** The session was conducted to commemorate IEEE PELS Day, emphasizing the role of power electronics in advancing sustainable energy systems. The speaker elaborated on emerging trends in wind energy conversion systems and the critical role of power converters in enhancing efficiency, reliability, and control. The session provided deep insights into how control strategies can be optimized to maximize energy extraction from wind turbines and integrate them effectively into modern power systems.

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4.	**IEEE activities**	IEEE POWER ELECTRONICS SOCIETY SJCE SB, in collaboration with IEEE POWER ELECTRONICS SOCIETY MADRAS CHAPTER PEL35 (CH10352), conducted the second session of the POWERXPLORE -The Conversion Intelligence Series on June 17, 2025, to mark the celebration of IEEE PELS Day. The topic of this insightful session was **"Small Modular Reactor with Advanced Power Electronics Technology"** presented by **Dr. Subrata Jana, Assistant Professor, Nuclear Science and Technology, Mody University**. The session focused on how modern power electronics technology is pivotal in revolutionizing the functionality and integration of Small Modular Reactors (SMRs) into energy systems. Dr. Jana elaborated on the technical advancements and the importance of SMRs as a sustainable and resilient energy source of the future. The integration of power electronics into nuclear energy systems was thoroughly discussed, highlighting its significance in safety, efficiency, and smart grid integration. Around 40+ participants joined the webinar conducted

	 PIC: EVENT POSTER	on Google Meet, engaging actively with queries and reflections on the topic.
5.	**IEEE activities**	The IEEE IAS SJCE SB Chapter, in association with the EEE Department and IEEE IAS Madras Section, organized a webinar titled **"Energy Horizons – Renewable Energy and Renewable Energy Sources"** on 19.6.25. **Ms. Shivedita Singh, Energy and Sustainability Expert,** delivered an insightful talk on renewable energy's role in climate action. The session, held via Google Meet, saw enthusiastic participation and concluded with an engaging Q&A on green jobs and energy policies.

	 PIC: EVENT POSTER & PHOTO	
6.	**IEEE activities**	The Department of Electrical and Electronics Engineering at St. Joseph's College of Engineering, in association with the IEEE Student Branch Chapter (SBC60101), IEEE Special Interest Group on Humanitarian Technology AG (SBA60101S), and IEEE MAS Special Interest Group on Humanitarian Technology AG, organized an expert talk on **"Building for Scale: Real-Time System, CI/CD & DevOps for Electrical Engineers"** on 22 June 2025 from 6:00 PM to 7:00 PM. The session was delivered by **Mr. Mohan Raj Loganathan, MSc Advanced Computer Science, University of Strathclyde, Scotland**, who provided valuable insights into the working of real-time systems, their relevance in electrical and embedded projects, and how CI/CD and DevOps practices help in building, testing, and updating systems faster and more efficiently. He explained the practical implementation of CI/CD pipelines and their role in improving the efficiency and reliability of system development. The session also emphasized the growing importance

	 PIC: EVENT POSTER	of DevOps culture in engineering projects. Participants gained awareness of how software tools and automation can enhance system performance in real-world scenarios.
7.	**IEEE activities**	The IEEE Solid-State Circuits Society (SSCS) Student Branch Chapter of St. Joseph's College of Engineering successfully organized a Quiz Event on **"Fundamentals of Solid-State Devices"** on 22nd June 2025. The event was designed to evaluate and strengthen participants' foundational knowledge in solid-state physics and semiconductor devices. With enthusiastic participation from over 30 students, the quiz fostered academic engagement and encouraged technical learning. Questions covered key topics such as PN junctions, transistors, and material properties. The event created a competitive yet educational atmosphere. It concluded on a positive note, motivating students to further explore the field of solid-state electronics.

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8.	**IEEE activities**	The IEEE IAS SJCE SB Chapter, in collaboration with the EEE Department and IEEE IAS Madras Section, conducted a webinar titled "Design Spark – Igniting Creative Engineering Solutions" on 23.6.25 via Google Meet. Mr. **D. Paul, CEO of Paul Bros Consulting,** spoke on **"Design Thinking for Engineers,"** highlighting empathy-driven innovation. With 40+ participants, the session featured real-world insights, interactive discussions, and strategies for creative problem-solving in engineering.

	 PIC: EVENT PHOTO	
9.	**ALUMNI TALK**	Our Alumnus Pradeish Misara R (2021-25 batch), FTF Intern at KAAR Tech, presented "placement in cognizant preparation talk for final years" on 21.06.2025 from 6.00 PM to 7.00 PM. Final year students interact and clarified their doubt in placement drive.

	 PIC: EVENT POSTER	
10	**ALUMNI INTERACTION**	Our Alumnus Mr.H. J. Ajfer Yasin (2006-10 batch), Senior General manger, CYZ Solutions, SDN BHD, Brunei Darussalam interacted with our college placement deans regarding placement and opportunities, career guidance and mentorship on 05.06.2025.

	 PIC: EVENT PHOTO	
11	**Faculty recognition and patent**	• Our faculty **Mr.R.Sreekanth** has been elected as Executive committee member in IEEE Madras section. • Our faculty **Dr.M.Venmathi** acted as reviewer for springer nature scientific reports • Our Faculty **Dr V Krishnakumar**, Associate Professor, has acted as **reviewer for "IEEE** – International Conference on Emerging Technologies in Engineering Applications" organized by Sri Manakula Vinayagar Engg College, Puducherry. • Our faculty **Dr.A.Jamna** acted as resource person for **Mentor training program** via **"Science via standards"** organized by **Bureau of Indian standards** (BIS) on 12th and 13th June 2025. • Our Faculty **Dr.Jayarama Pradeep** has received Certificate of appreciation, for their **mentorship for students in Solar Decathlon 2025**

		• Our faculties **Dr.T.Babu, Ms.R.G.Nirmala, Mr.H.Prasad** published one patent each.
12	**Faculty Publication**	• Our faculty **Dr.N. Chidambararaj** published a paper titled "**Flood Forecasting Model Using LSTM-Neural Network-Application and Challenges**" • Our faculty **Mr.Aravindhan K, Dr.Chidambararaj N** published a paper titled "**Real-Time Ground Water Level Detection using Satellite Imagery and XG-Boost Algorithm for Sustainable Water Resource Management** " • Our faculty **Ms.S.P. Vedavalli** published paper titled "**Multimodal Collegiate Vocabulary Instruction Employing Hypermedia"** • Our faculty **Mr.Balasubramanian. V** published paper titled **"Geospatial Analysis of Land Use Changes and Its Implications on Agricultural Production**" • Our faculty **Mr.Nishant. S** published paper titled **" Statistical Methods for Big Data Analysis in Technological Systems**" • Our faculty **Mr.Jeyaprakash. N** published paper titled "**Fog and Edge Computing: Bridging the Gap Between Cloud and IoT**" • Our faculty **Dr.T.V. Narmadha** published paper in **"Optimised State of Charge Estimation for Battery Using ML Technique" and "Agribot -A Multifunctional Autonomous Robot for Enhanced Agricultural Efficiency and Precision Farming**" • Our faculties **Mr.Sreekanth R;Dr.Ramesh Babu M;** published paper titled **"Agribot -A Multifunctional Autonomous Robot for Enhanced Agricultural Efficiency and Precision Farming**" • **Dr.Jayarama Pradeep;** published paper titled **"Sea Buoy in Oil Spillage Detection" and** paper titled **"Smart Gas Stove with Enhanced Gas Leakage Monitoring System**"

		• Our faculties **Ms.C. Ramadevi**; **Dr.Narmadha T V** published paper titled "**Effective Feature Technique for Heart Disease [FETUS] Prediction in Machine Learning"** • Our faculties **Mr.H. Prasad, Dr.T.D. Sudhakar** published paper titled "**Energy Demand Forecasting in an Integrated Power System Using Machine Learning Techniques**" and **" Enhanced Solar Power Utilization for EV Charging Stations Using a Reconfigurable Step-Size Fuzzy Logic MPPT Controller"** • Our faculty **Mr.Umesh Prabhu H** published paper titled" **Performance Analysis of Circle Search Algorithm-Based MPPT for Solar in Fuzzy Controlled Distributed Voltage Regulation of a Remote Microgrid "** • Our faculty **Dr.M.Ramesh Babu** published paper titled "**Intelligent Energy Management System for Standalone Electric Vehicles with Adaptive PID Control and Renewable Power Sources "** • Our faculty **Dr.M. Venmathi** published paper titled "**Analyze, Design and Implementation of MPWM Interleaved DC-DC Converter with Voltage Doubler for EV Applications**" • Our faculty **Dr.Venkatesh Kumar C** published paper titled "**Sliding Mode Controlled ReliftLuo Converter – Dual Output DC to DC Converter for Microgrid Application".**
13	**Faculty Quality improvement program**	• Our faculty **Dr.Jayarama Pradeep** is shortlisted for Centre of Engineering Education Excellence(CEEE) with a stipend of Rs.50000 at IIT Kharagpur. • Our faculty **Dr.P.Velmurugan** is shortlisted for Centre of Engineering Education Excellence(CEEE) with a stipend of Rs.50000 at IIT Bombay. • Our faculties **Dr.V.Krishnakumar and Mr.T.Srianandha Ganesh** are shortlisted for Centre of Engineering Education Excellence(CEEE) with a stipend of Rs.50000 at IIT Madras. • Our faculties **Dr.Jayarama Pradeep and Dr.S.Sridhran** were selected for **AICTE-QIP on Intelligent transportation systems: Synergy of Artificial intelligence, drones and EV at IITM, Gwalior** • Our faculties **Dr.M.Ramesh Babu, Dr.P.Velmurugan, Dr.C.Venkatesh Kumar, Mr.S.Sivakumar** were selected for **AICTE-QIP on Deep learning and Intelligent transport system for Electric vehicles at NIT, Surathkal.**

		• Our faculty **Dr.T.Babu** selected for **AICTE-QIP on Machine learning and cyber physical systems at IIIT, Trichy.** • Our faculty **Mr.R.Elanthirayan selected for AICTE-QIP on Internet of Things at NIT Karaikal.** • Our Faculties **Dr T Babu Dr. A.Jamna** and **Mr S S Harish** completed a two week training program on **Drone Technologies** conducted by **Pravatak,** at **IIT Madras Research Park**. • Our Faculties **Dr.T.D.Sudhakar, Dr.C.Venkatesh Kumar, Mr.R.Sreekanth, Mr.N.Jeyaprakash, Mr.S.Sivakumar, Mr.A.Sadeesh Kumar, Mr.V.Balasubramanian** completed one week training on **Artificial Intelligence conducted by RGB AI** • Our Faculties **Dr.N.Chidambararaj, Dr.M.Venmathi, Ms.R.G.Nirmala, Ms.S.P.Vedavalli, Mr.H.Umesh Prabhu, Ms.S.Goamthi, Mr.H.Prasad, Mr.S.Nishant, Ms.C.Ramadevi** completed one week training course on **Testing and calibration of Industrial instruments** conducted by **National Skill training Institute, Guindy.**
14	**Faculty NPTEL Acheivers**	• Our faculties **Dr.M.Venmathi, Mr.T. Srianandha Ganesh, Ms. S. Gomathi and Ms.C.Rama Devi were top performing mentors for Jan June 2025 NPTEL courses.** • Our faculties **Mr.T. Srianandha Ganesh and Mr.H.Prasad were presented with NPTEL Motivated Learner.** • Our faculties **Mr.H.Prasad** and **Mr.V. Balasubramanian were presented with NPTEL believer**
15	PLACEMENT DETAILS FOR THE MONTH OF JUNE 2026	**2021-2025 Batch** Total No of students placed = 103 Students Total No of Offers = 129 Offers Total No of Students (UG) = 194 Total No of Eligible Students (UG) = 165 (All Clear) % of students Placed (UG) = 103/194 = 53.1 %

		No of students having single offers = 77 No of students having Double offers = 22 No of students having Triple offers = 4

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Events conducted:

The following events have been conducted during June 2026 at College Level

1. Guest Lecture	Report
a) Guest Lecture and Workshop Sessions by Building the Brains of Modern Electronics	
	The Department of Electronics and Communication Engineering, in collaboration with NXP Semiconductors, organized an Expert Guest Lecture and Hands-on Workshop on "Building the Brains of Modern Electronics – DV, AMS, AI & Embedded Systems" on 11 June 2026. The event aimed to bridge the gap between academic learning and industry practices by exposing students to emerging technologies and real-world semiconductor design methodologies. An expert lecture was delivered by Mr. Azhagarasan Sethu, Senior Manager – Design Verification, NXP Semiconductors, highlighting industry trends in VLSI, design automation, AI, and embedded systems. Students gained valuable insights into semiconductor industry expectations, career opportunities, and emerging technologies. Hands on workshops by NXP experts Darshan R, Ajay G. Nayak, and Supratim C. covered VLSI tapeout flow, Design Verification, Analog Mixed Signal, and AI enabled Embedded Systems.

2. STAFF ACHIEVEMENTS	**Report**
a) MeitY-C2S Funded PEP–Semiconductor and VLSI Design Centre	
	The Department of ECE has established the MeitY C2S funded PEP Semiconductor and VLSI Design Centre under the Chips to Startup initiative of the Government of India. The

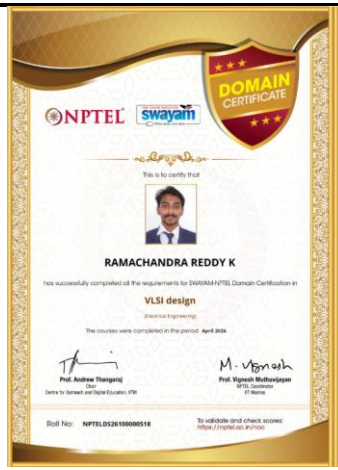
centre is implemented by Dr. P. Latha, Dr. R. Avudaiammal, and Mr. M. Lingeshwaran to strengthen semiconductor education and research.

It provides hands on training in RTL design, functional verification, IC design, and FPGA based hardware prototyping. The centre promotes industry collaboration, internships, placements, research publications, patents, and startup incubation. Through the ChipIN Centre, C DAC Bengaluru, the institution has gained access to advanced EDA tools from leading semiconductor technology companies.

b) CEEE Programme	
	Mrs. R. Madhumitha and Dr. K. Ramachandra Reddy of the ECE Department successfully participated in the CEEE Programme conducted by IIT Madras from 3 to 24 June 2026. The offline programme comprised approximately 124 contact hours covering Signals and Systems, Circuits and Networks, Analog and Digital Circuits, and Solid State Devices. The participants visited ECE laboratories and explored advanced facilities, modern instrumentation, and research oriented experimental setups. Interactions with faculty, research scholars, and participants provided insights into innovative teaching practices and Outcome Based Education (OBE). The programme enhanced their conceptual understanding, analytical skills, and practical knowledge, supporting improved teaching and academic excellence.

c) NPTEL	
	The Department of Electronics and Communication Engineering proudly congratulates Dr. S. Sri Jamiya on being recognized as an NPTEL Believer, NPTEL Discipline Star, and NPTEL Enthusiast for the Jan–Apr 2026 semester. These recognitions from NPTEL, IIT Madras, reflect her commitment to continuous learning, academic excellence, and professional development. Her achievement serves as an inspiration to faculty members and students to pursue lifelong learning and skill enhancement through online education. The Department of Electronics and Communication Engineering proudly congratulates Dr. K. Ramachandra Reddy on earning the NPTEL Motivated Learner, NPTEL Discipline Star (Electrical Engineering), and NPTEL Domain Certificate in VLSI Design during the Jan–Apr 2026 semester. These achievements reflect his commitment to continuous learning, academic excellence, and professional growth through the SWAYAM–NPTEL platform, inspiring faculty

and students to pursue lifelong learning and technical excellence.

	
3. FDP	**Report**
a) FACULTY DEVELOPMENT PROGRAM	

The Department of Electronics and Communication Engineering proudly congratulates Ms. M. Angelin Ponrani for successfully completing the 40-hour Faculty Development Programme on “Deep Learning and Foundation Models for Vision, Language, Multimodal, and Quantum AI” held from 08–13 June 2026 at IIITDM Kancheepuram, Chennai. The programme was jointly organized by IIITDM Kancheepuram, Electronics and ICT Academy (Phase II), and PDPM IIITDM Jabalpur under an initiative of the Ministry of Electronics and Information Technology (MeitY), Government of India. The FDP provided valuable insights into emerging areas of Artificial Intelligence, enhancing expertise in deep learning, foundation models, multimodal learning, and quantum AI.

6) Publications	

Journal Publications

1. Ramachandra Reddy K and G D Vignesh F, Faculty of ECE department has presented a paper titled “A Dual-Path YOLO26 Framework with Micro-Segmentation and Displacement-Aware Correlation for Automated Lumbar Vertebral Analysis and Early Spondylolisthesis Detection” in 2026 International Conference on AI-Driven Smart Systems and Ubiquitous Computing (ICAUC).
2. Ramachandra Reddy, Assistant Professor, Department of ECE has presented a paper titled “Adaptive and Lightweight DDoS Defense in SDN-Enabled Edge–IoT Networks Using Unsupervised and Reinforcement Learning” in 2026 4th International Conference on Intelligent Data Communication Technologies and Internet of Things (IDCIoT).
3. G.D Vignesh, Assistant Professor, Department of ECE has published a Journal titled “Advanced hybrid optical transmission/multiplexing techniques for upgrading total optical fiber core communication systems capacity based all optical doped fiber amplifiers” in Journal of Optical Communications.

DEPARTMENT OF SCIENCE

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Sl.No.	Events	Remarks
1	**Collabarative Quality initiatives with other institutions**	1. Dr. S. Suresh has acted as "Faculty peer evaluator" for the project expo event "Tech star summit" conducted by "SIMATS Engineering, Chennai" on 01-06-26. 2. Dr. P. Saravanan, Dr. A. Mahalakshmi, Dr. A. Uma Devi received association membership from "Indian Association of Physics Teachers", on 03-06-26
2	**Industrial Visits,Inplant Training,Internships**	1. Dr. G. Senthil Murugan has been shortlisted for the Centre for Engineering Education Excellence Program (CEEE) 26-27 at IIT Madars, conducted between 24-06-26 to 10-07-26
3	**Guest Lecture**	-
4	**FDP/Workshop/Conference**	1. Dr. S. Suresh has attended Train the Trainer (ToT) Quantum Technology Bootcamp, organized by iTNT Hub, Ministry of Electronics and Information Technology from 15-06-26 to 17-06-26
9	**Awards/Prize won by students / Staff**	**Students Achievement** 1. Mr. Vishvath Manikantan, I Cyber Security had been offered a paid internship with stipend of Rs. 11250 at Recode Solutions, Chennai from 09-06-26 to 30-06-26 **Staff Achievement**

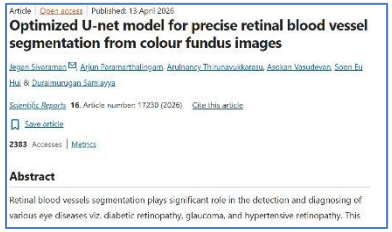
		1. Dr. P. Saravanan, Dr. N. Punitha, Dr. S. Kiruba, Dr. S. Suresh, Dr. V. Swarnalatha, Dr. A. Arulmozhi, Dr. A. Mahalakshmi, Dr. A. Uma Devi, Dr. N.R. Rajagopalan , Dr. S. Manikandan,Mr. S. Kaleel Mohamed Ibrahim, Dr. P. Krishnan, Dr. B. Subash, Dr. S. Rama, Dr. K. Dhanaraj, Dr. G. Senthil Murugan had received "NPTEL Faculty Mentor" award certifications in the NPTEL exams Jan- May 2026.
11	**Publications(only published) details**	**Journal Publications:** 1. Dr. P. Saravanan published a review article titled "Engineering MXenederived 2D Materials for Advanced Solid Electrolytes and Energy Storage Devices " in the Journal "Ionics". Doi: https://doi.org/10.1007/s11581-026-07252-1 2. Dr. P. Saravanan published a research article titled "Systematic 3D Co-engineering Strategies for Light-Responsive Micro/Nano motor Systems " in the journal "Results in Engineering" Doi: https://doi.org/10.1016/j.rineng.2026.111523 3. Dr. N. Punitha published a research article titled "Comprehensive Structural, Spectroscopic, DFT, Hirshfeld Surface, and Nonlinear Optical Investigations of (E)-N′- (2,5-Dimethoxy benzylidene) -4-Fluorobenzohydrazide" in the journal "Journal of the Iranian Chemical Soceity". Doi: https://doi.org/10.1007/s13738-026-03499-7

		4. Dr. S. Suresh published a research article titled “Effect of Sn and Eu_2O_3 Modification on the Structural and Pseudocapacitive Behaviour of α-MnO_2 under Alkaline Conditions” in the journal “Applied Physics” Doi: https://doi.org/10.1007/s00339-026-09852-0 5. Dr. P. Krishnan published a research article titled “Dual Z-Scheme gC_3N_4/MoS_2/ZnO Photo catalyst for Efficient Visible-Light Antibiotic Degradation ” in the journal “Chemistry Africa”. Doi: https://doi.org/10.1007/s42250-026-01738-1 6. Dr. P. Krishnan published a research article titled “: Minireview: Fe–Ni and Fe–Co LDH/MOF Electrocatalysts for Oxygen Evolution Reaction in Electrocatalytic Water Splitting ” in the journal “Ionics”. Doi: https://doi.org/10.1007/s11581-026-07325-1 7. Dr. K. Dhanaraj published a research article titled “Influence of J-T Instability on Order–Order Magnetic Phase Transition and Magnetocaloric Properties of Oxygen-Deficient Orthoferrite $CaFeO_{3-x}$ Nanoparticles” in the journal “AIP Conference Proceedings” Doi: https://doi.org/10.1063/5.0342860 8. Dr. K. Dhanaraj published a research article titled “Comparative Analysis of Lithium-Ion and Sodium-Ion Rechargeable Batteries and

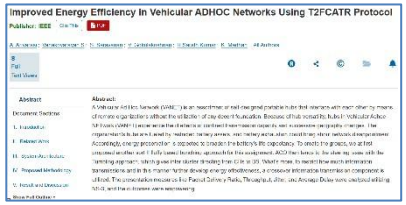
		Their Intended Applications" in the journal "AIP Conference Proceedings" Doi: https://doi.org/10.1063/5.0343281 **Journal Reviewers** 1. Dr. S. Suresh - Journal of Composite Materials, Journal of Plant Biochemistry and Bio technology 2. Dr. K. Jayamoorthy - The Journal of Physical Chemistry, Journal of Molecular Structure, Next Materials, Current Organic Chemistry, Chemistry Select, Surface Review and Letters, Journal of Chemistry, Chemical Physics Impact, Journal of Oleo Science, Mini Reviews in Organic Chemistry, Scientific Reports 3. Dr. B. Subash - Next Materials , Chemical Physics Impact , Industrial Crops & Products, Diamond & Related Materials , Current Analytical Chemistry 4. Dr. K. Dhanaraj - Nano Select, Discover Chemistry

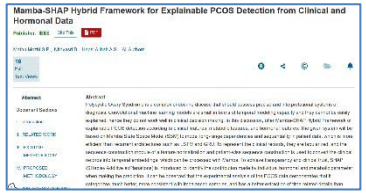
DEPARTMENT OF INFORMATION TECHNOLOGY

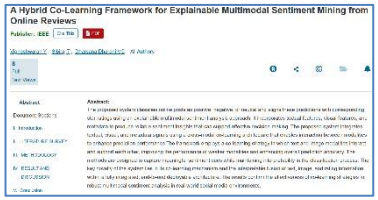
	Photographs Captured During Event/Screenshot	Corresponding remarks in regarding the status of activity execution
1.	 **Co-Author** **Dr. J. Divya,** published a WOS Indexed paper	**Staff Publication** S. Murugeshwari, Madhan Gunasekaran, B. Senthil Rathi, R. M. Saravana Kumar & **J. Divya**. Plant-Mediated CuO Nanoparticles for Reactive Orange Dye Adsorption: Experimental study and Machine Learning-Assisted Optimization. Water Air Soil Pollut, Volume **237**, Article No 945 (2026). https://doi.org/10.1007/s11270-026-09615-w, 04 June 2026 **Abstract:** Anionic azo dye, reactive orange 16 (RO16), is a persistent aquatic pollutant because of its intricate aromatic composition and sulfonate groups, which make it resistant to biodegradation, necessitating an effective removal technique. This study aimed to synthesize an eco-friendly and affordable nano-adsorbent using Solanum nigrum leaves. X-ray diffraction confirmed the monocrystalline nature with an average crystalline size of 22 nm, calculated using the Scherrer equation. FTIR spectroscopy revealed the presence of functional groups, confirming phytochemical capping. FTIR, FESEM, and EDX analyses verified the phytochemical capping, quasi-spherical morphology, surface roughness, and elemental composition. The mechanism shows dominant electrostatic interactions, followed by hydrogen bonding and Π- Π interactions. Regeneration studies showed an efficiency of ~ 70% (up to the 6th cycle), followed by a decline (< 50% by the 10th cycle). Machine learning analysis further supported the predictive optimization of the adsorption process. These findings demonstrate that Solanum nigrum-mediated CuONPs are promising, low-cost, and environmentally sustainable adsorbents for textile dye remediation.

2.	 **Authors** **Dr. Tamizhselvi A,** **Dr. Duraimurugan S** published a WOS Indexed paper	**Tamizhselvi Annamalai**, Selvam Lakshmanan, Thilagavathi Pannerselvam, **Duraimurugan Samiayya,** "Enhancing Video Streaming Quality With Reinforcement Learning-Based Fuzzy Crossover Mountain-Gazelle Algorithm, Transactions on Emerging Telecommunications Technologies, 10.1002/ett.70433, Volume 37, Issue 6, Article number e70433, https://doi.org/10.1002/ett.70433, 1st June 2026 **Abstract** The process of streaming efficiency through adaptive bitrate control can reduce unnecessary bandwidth usage while maintaining perceived video quality and minimize the occurrence of buffering over the Internet. There are a variety of solutions available today for improving the overall quality of service associated with video streaming; however, there are still many obstacles to achieving these objectives, such as excessive processing power requirements or costs that are too high. Some currently available solutions do not produce the desired results because there is an insufficient amount of important detail available; therefore, there is a lack of innovative solutions designed for increasing end-user satisfaction. Fuzzy logic handles uncertainty in network conditions and maps imprecise quality of service indicators into quality of experience-oriented decision rules. Additionally, other hyperparameter tuning to improve the overall performance of the model will be achieved using a crossover-based mountain-gazelle algorithm. Moreover, through experimental validation, the proposed method acquires the best performance with a bandwidth of 15 Mbps. This specifies the superior performance for higher user satisfaction compared to the other conventional methods.
3.	 **Co-Author** **Dr. Duraimurugan S,** published a WOS Indexed paper	Jegan Sivaraman, Arjun Paramarthalingam, Arulnancy Thirunavukkarasu, Asokan Vasudevan, Soon Eu Hui & **Duraimurugan Samiayya**, "Optimized U-net model for precise retinal blood vessel segmentation from colour fundus images", Sci Rep 16, 17230 (2026), https://doi.org/10.1038/s41598-026-48475-6, 10 June 2026 **Abstract** Retinal blood vessels segmentation plays significant role in the detection and diagnosing of various eye diseases viz. diabetic retinopathy, glaucoma, and hypertensive retinopathy. This paper presents a deep learning-based novel approach to the automated segmentation of retinal vessels present in colour fundus images. The proposed approach utilizes a Convolutional Neural Network (CNN) with modified U-Net architecture and advanced image-processing techniques to accurately extract retinal blood vessels present in fundus images. The data used for training and evaluation includes data available in the benchmark retinal fundus image databases. (DRIVE and CHASEDB1 datasets etc.). The major objective of this work is to improve the early screening and diagnosis of retinal diseases by providing an optimal and reliable blood vessel extraction tool for Doctors. The developed approach demonstrates promising retinal vessel segmentation results with respect to accuracy and efficiency. Further performance is compared with existing works to show the effectiveness and wholesome of the given approach enhances the early screening and diagnosis of retinal diseases, primarily for use in automated screening systems.

4.	 **Author** **Dr. Tamizhselvi A,** published a WOS Indexed paper	**Tamizhselvi Annamalai** &Selvam Lakshmanan, 'Vehicular Jamming Attack Detection Using Capsule Networks, GhostNet Ensembles, and Optimization-Driven Feature Selection', IETE Journal of Research, pp. 1–11., doi: 10.1080/03772063.2026.2658694, 03 June 2026. **Abstract** Vehicular Ad Hoc Networks (VANETs) are open wireless communication architectures that are often vulnerable to jamming attacks, which can disrupt connectivity and compromise road safety. This research introduces a novel Depthwise Capsule Network with a Gated GhostNetMaxout (DCap-GGhostmax) framework for computationally efficient and accurate jamming attack detection in VANETs. The two-stage feature selection strategy consists of Tucker's congruence coefficient-based preselection followed by Gray Wolf Optimization (GWO), enabling the selection of the most discriminative features while reducing redundancy and overfitting. For attack detection, a Gated GhostNetMaxout model is developed, combining Gated Recurrent Units (GRU), Deep Maxout Networks (DMN), and GhostNet architectures. The outputs of these models are fused using a fuzzy ranking mechanism to enable adaptive and robust decision-making. Experimental evaluation on the Dedicated Short-Range Communication (DSRC) Vehicle Communications Dataset demonstrates that the proposed method outperforms existing approaches, achieving an accuracy of 98.7%, an F1-score of 98.61%, and a reduced execution time of 25.6 ms. These results confirm its suitability for deployment in resource-constrained vehicular environments. Overall, the proposed framework effectively balances detection accuracy, computational efficiency, and network performance.

5.	 **Co-Author** **Mr.K. Madhan,** published a scopus indexed paper	Arivarasi, V. S, S. Saravanan, V. Gokulakrishnan, R. S. Kumar and **K. Madhan**, "Improved Energy Efficiency in Vehicular ADHOC Networks Using T2FCATR Protocol," 2026 International Conference on System, Computation, Automation and Networking (ICSCAN), Puducherry, India, 2026, pp. 1-6 doi: 10.1109/ICSCAN66520.2026.11588405, 07 July 2026. **Abstract** A Vehicular Ad Hoc Network (VANET) is an assortment of self-designed portable hubs that interface with each other by means of remote organizations without the utilization of any decent foundation. Because of hub versatility, hubs in Vehicular Adhoc NETwork (VANET) experience the ill effects of confined transmission capacity and successive geography changes. The organization's hubs are fueled by restricted battery assets, and battery exhaustion could bring about network disappointment. Accordingly, energy preservation is expected to broaden the battery's life expectancy. To create the groups, we at first proposed another sort II fluffy based bunching approach for this assignment. ACO then tends to the steering issue with the Tumbling approach, which gives inter cluster directing from CHs to BS. What's more, to restrict how much information transmissions and in this manner further develop energy effectiveness, a crossover information transmission component is utilized. The presentation measures like Packet Delivery Ratio, Throughput, Jitter, and Average Delay were analyzed utilizing NS-3, and the outcomes were empowering.
6.	 **Authors** **Mohith Raaj A., Isaac Jeddiah J. K., Ms. Subha K,** published a scopus indexed paper	**<u>Staff-Student Publication</u>** **Mohith Raaj A., Isaac Jeddiah J. K., Subha K.,** "Unlocking the Ocean's Hidden Diary: Reconstructing Environmental History from the Chemical Clues in Fish Otoliths", 2026 International Conference on Recent Advancement in Electrical, Computer and Communication Technologies (IECCT), Conference Paper, pp. 1–6, Electronic ISBN: 979-8-3315-7140-5, Conference date 10 April 2026 – 11 April 2026, Bangalore, India, DOI: 10.1109/IECCT68664.2026.11542170, Date Added to IEEE Xplore: 02 June 2026. (Indexed in IEEE Xplore) Abstract—Attempting to analyze the fish ear bones, or ”otoliths,” to understand the ocean's past typically involves a laborious process that demands a certain level of knowledge in the subject matter or a significant time consumption. In our present study, however, we sought to heavily rely on machine learning to simplify our process in an attempt to hasten our workload in analyzing the fish ear bones' composition to establish deeper insights into underlying ocean conditions through the analysis of chemical composition, such as calcium or magnesium, to make further inferences regarding certain conditions in the ocean environment. In fact, machine learning may be useful in monitoring our ocean environments through a deeper analysis of otoliths, at an accuracy rate of 88%, especially in identifying areas of hypoxic conditions or areas in our ocean that have lower levels of oxygen in the water.

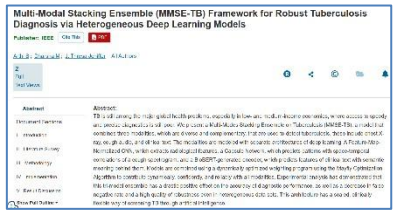
7.	 Mamba-SHAP Hybrid Framework for Explainable PCOS Detection from Clinical and Hormonal Data **Authors** **Mathu Mozhi S. P., Nithyasri B., Ms.Hepsi Ajibah A. S,** published a scopus indexed paper	**Mathu Mozhi S. P., Nithyasri B., Hepsi Ajibah A. S.,** "Mamba-SHAP Hybrid Framework for Explainable PCOS Detection from Clinical and Hormonal Data", 2026 2nd International Conference on Big Data & Machine Learning (ICBDML), Conference Paper, pp. 1–7, Electronic ISBN: 979-8-3195-3091-2, Conference date 27 February 2026 – 28 February 2026, Bhopal, India, DOI: 10.1109/ICBDML68582.2026.11544669, Date Added to IEEE Xplore: 08 June 2026. (Indexed in IEEE Xplore) **ABSTRACT**: Polycystic Ovary Syndrome is a complex endocrine disease that should possess precise and interpretational systems of diagnosis. Convolutional machine learning models are small in terms of temporal modeling capacity and they cannot be easily explained, hence they do not work well in clinical decision making. In this discussion, offer Mamba-SHAP Hybrid Framework of explainable PCOS detection according to clinical features, metabolic features, and hormonal features. The given system will be based on Mamba State Space Model (SSM) to model long-range dependencies and sequentiality in patient data, which is more efficient than recurrent architectures such as LSTM and GRU. To achieve transparency and clinical trust, SHAP (SHapley Additive exPlanations) is introduced to identify the contribution made by individual hormonal and metabolic parameter when making the prediction. The biomarkers that are clinically validated such as AMH, LH / FSH ratio, BMI, and fasting insulin are mentioned in SHAP visualizations which demonstrate the medical importance of the model. The proposed Mamba-SHAP strategy is also wellpredictive and its diagnostics are interpretable, thus the choice to be implemented in actual health care.
8.	 Adaptive Transfer Learning of STFT-Based Uterine EMG Spectrograms for Proactive Prediction of Preterm Birth **Authors** **Mohan Raj S, Jayaprakash B, Dr. Gnanaprakasam C. N,** published a scopus indexed paper	**Mohan Raj S, Jayaprakash B, Gnanaprakasam C. N.,** "Adaptive Transfer Learning of STFT-Based Uterine EMG Spectrograms for Proactive Prediction of Preterm Birth", 2026 2nd International Conference on Big Data & Machine Learning (ICBDML), Conference Paper, pp. 1–6, Electronic ISBN: 979-8-3195-3091-2, Conference date 27 February 2026 – 28 February 2026, Bhopal, India, DOI: 10.1109/ICBDML68582.2026.11544602, Date Added to IEEE Xplore: 08 June 2026. (Indexed in IEEE Xplore) Abstract—Preterm birth is still one of the key maternalneonatal health issues in the world and is directly linked to respiratory distress, neurological deficiency, low birth weight, and high mortality rates because of underdeveloped fetus. Although obstetric care has improved, preterm birth can hardly be predicted early as the symptoms are very subtle, heterogeneous, and may appear like regular pregnancy. Traditional diagnostic methods that include cervical length ultrasound, fetal fibronectin, and manual contraction measurements possess limited predictive characteristics, are invasive, or need ongoing clinical monitoring, and thus are impractical in massively identifying preterm births. Its portability allows its application in both regular clinical practice and in in situational locations, e.g., in-home monitoring and remote health, especially when available resources are limited. Future directions involve multi-channel EMG amalgamation, inclusion of clinical records, adaptive longitudinal monitoring as well as implementation on mobile systems to provide real-time care to the mother. Index

9.	 **Authors** **Vigneshwaran Y, Sibiraj T, Ms. Dharsana Dharani V. G,** published a scopus indexed paper	**Vigneshwaran Y, Sibiraj T, Dharsana Dharani V. G.,** "A Hybrid Co-Learning Framework for Explainable Multimodal Sentiment Mining from Online Reviews", 2026 6th International Conference on Pervasive Computing and Social Networking (ICPCSN), Conference Paper, pp. 142–149, Electronic ISBN: 979-8-3315-7236-5, Conference date 06 May 2026 – 08 May 2026, Salem, India, DOI: 10.1109/ICPCSN68523.2026.11543880, Date Added to IEEE Xplore: 08 June 2026. Abstract The proposed system classifies online posts as positive, negative, or neutral and aligns these redictions with corresponding star ratings using an explainable multimodal sentiment analysis approach. It incorporates textual features, visual features, and metadata to produce reliable sentiment insights that can support effective decision-making. The proposed system integrates textual, visual, and metadata signals using a cross-modal co-learning architecture that enables interaction between modalities to enhance prediction performance The framework employs a co-learning strategy in which text and image modalities interact and support each other, improving the performance of weaker modalities and enhancing overall prediction accuracy. The key novelty of the system lies in its co-learning mechanism and the interpretable fusion of text, image, and rating information within a fully integrated, end-to-end deployable architecture. The results confirm the effectiveness of co-learning strategies for robust multimodal sentiment analysis in real-world social media environments.
10.	 **Authors** **Alice Jeslyn A, Dr. Janani M, Asmidha A,** published a scopus indexed paper	**Alice Jeslyn A, Janani M, Asmidha A,** "NLP-Based Interview Assistant: "Smart Hire"", 2026 International Conference on Signal, Systems, and Computing for Next-Gen Automation (ICSSCNA), Conference Paper, pp. 864–870, Electronic ISBN: 979-8-3315-7039-2, Conference date 04 May 2026 – 06 May 2026, Eluru, India, DOI: 10.1109/ICSSCNA68616.2026.11546872, Date Added to IEEE Xplore: 09 June 2026. Abstract—The conventional interview process has several limitations, such as subjective assessment, interviewer fatigue, and variability in scoring, whereas the existing automated systems are mainly based on text analysis and overlook critical speech and behavioral aspects. To overcome these limitations, a multimodal interview assistant system named Smart Hire is proposed to com- bine speech processing with transformer-based natural language understanding for real-time candidate assessment. The proposed system architecture includes the use of Automatic Speech Recognition (ASR) for accurate transcription, semantic encoders for contextual relevance analysis, and an acoustic modeling pipeline to extract prosodic information such as pitch variation, fluency, hesitation, and tonal constancy. These multimodal features are combined using a structured scoring engine that assesses clarity, confidence, domain knowledge, and relevance of responses in a normalized fashion. The system is implemented in a real-time interactive environment that supports adaptive questioning and instant performance feedback. Experimental results show that multimodal fusion yields an overall accuracy of 0.97, which is superior to the singlemodality based systems. The proposed system architecture is a scalable, unbiased, and interpretable solution for automated interview assessment in educational and recruitment settings.

11.	 A lightweight deep learning and gradient boosting approach for Oral cancer classification **Authors** **S. Annie Kesviya, Mr. Manikandan J, R. Brindha,** published a scopus indexed paper	**S. Annie Kesviya, Manikandan J, R. Brindha,** "A Lightweight Deep Learning and Gradient Boosting Approach for Oral Cancer Classification", 2025 International Conference on Intelligent & Innovative Practices in Engineering & Management (IIPEM), Conference Paper, pp. 1–6, Electronic ISBN: 979-8-3315-9604-0, Conference date 25 November 2025, Singapore, Singapore, DOI: 10.1109/IIPEM65914.2025.11548136, Date Added to IEEE Xplore: 09 June 2026. **Abstract**— Oral cancer is a major health problem in the world and more so in less developed nations where access to early diagnostic facility is small or absent. Oral cancer presents itself in its early life stages with no symptoms and thus it is not diagnosed and survival is largely compromised. Conventional methods of diagnosis are based on manual histopathological examination that besides being time-consuming, is prone to errors and prone to biases on personal grounds. Recent growth in artificial intelligence, especially in deep learning and machine learning, are the opportunities that can enhance the accuracy and efficiency of medical image analysis. DenseNet121 is utilized to extract deep features because it is densely connected and it can extract dense spatial features efficiently. To classify, we apply Cat Boost, which is a high-performance gradient boosting algorithm that is most appropriate in case of class imbalance and in working with categorical data. Oral Net-CB with a publicly available data of oral cancer images is applied. The model had a classification accuracy of 94.3% that was relatively better and accurate than the current model.
12.	 SoulSynth:Multimodal Emotion Recognition and secure Authentication for Mental Wellness **Authors** **Lavanya K, Shanmadhi R. G., Ms. Nivethitha Devi M,** published a scopus indexed paper	**Lavanya K, Shanmadhi R. G., Nivethitha Devi M,** "SoulSynth: Multimodal Emotion Recognition and Secure Authentication for Mental Wellness", 2026 7th International Conference on Intelligent Communication Technologies and Virtual Mobile Networks (ICICV), Conference Paper, pp. 1991–1996, Electronic ISBN: 979-8-3195-2947-3, Conference date 20 May 2026 – 22 May 2026, Tirunelveli, India, DOI: 10.1109/ICICV68925.2026.11554798, Date Added to IEEE Xplore: 12 June 2026. **ABSTRACT**– More people are seeking help for their mental health now than at any other point in history and this is true of every age group. At the same time, many people are not getting the care they need as quickly as they should be getting it. This is particularly true for older adults who generally have difficulty adopting new technologies and, therefore, face challenges accessing online services for mental health care. To help address this issue, we have designed Soul Synth to be userfriendly and secure as a mobile app intended to support mental well-being by providing tools for mood tracking, encouraging participation in leisure activities and giving encouragement to change lifestyles as needed. Soul Synth aims to make sure your information is safe, easy to use for all users, and that you are not left behind due to technological advancements. As a result, the app contains evidence-based tools such as mood tracking, guided relaxation, brain exercises, reminders to socialize, and personalized features that adapt to your unique experience. Initial testing indicates that Soul Synth is user-friendly for individuals who have limited experience using technology, and that the app has the ability to use artificial intelligence (AI) to=create customized user experiences.

13.	 Adaptive Cross-Modal Topology-Constrained Contrastive Representation Learning with Hierarchical Transformer-Graph Synergistic Fusion for Robust Preclinical Alzheimer's Disease Satisfaction **Authors** **P. Sankhya Sarvikaa, S. Prashika Shri, Mr. P. Sirenjeevi,** published a scopus indexed paper	**P. Sankhya Sarvikaa, S. Prashika Shri, P. Sirenjeevi,** "Adaptive Cross-Modal Topology-Constrained Contrastive Representation Learning with Hierarchical Transformer-Graph Synergistic Fusion for Robust Preclinical Alzheimer's Disease Satisfaction", 2026 7th International Conference on Intelligent Communication Technologies and Virtual Mobile Networks (ICICV), Conference Paper, pp. 1708–1713, Electronic ISBN: 979-8-3195-2947-3, Conference date 20 May 2026 – 22 May 2026, Tirunelveli, India, DOI: 10.1109/ICICV68925.2026.11554903, Date Added to IEEE Xplore: 12 June 2026. **Abstract**— Diversity of clinical manifestations and multimodal characteristics of neuroimaging make it difficult to conduct early diagnosis of Alzheimer Disease (AD). The given research suggests a Hybrid Network of the combination of structural MRI, PET scans, and cognitive measurements, labeled as a Weighted Multi-Mode Contrastive Learning (WMCL-HN), to detect early AD successfully. Variational Autoencoders regularization stabilization of latent distribution and enhances generalization. The results of experiments on the ADNI dataset with stratified 10-fold cross-validation indicate a better performance, with 99.1-percent accuracy, 98.9-percent sensitivity, 99.2-percent specificity, and 99.3-percent AUC. Visualizations that are based on attention emphasize areas of the brain that are discriminative with increased interpretability. WMCL-HN offers an effective and reliable, easily interpretable, clinically applicable solution to early AD diagnosis than other traditional single-modality and multimodal fusion methods.
14.	 Skin Dehydration Tendency Estimation using Smartphone Macro Images via Micro-Texture Entropy and ResNet50 Transfer Learning **Authors** **Omega, Harsitha Priyadharshni A, Dr. Aneesh Euprazia L,** published a scopus indexed paper	**Omega, Harsitha Priyadharshni A, Aneesh Euprazia L,** "Skin Dehydration Tendency Estimation Using Smartphone Macro Images via Micro-Texture Entropy and ResNet50 Transfer Learning", 2026 7th International Conference on Intelligent Communication Technologies and Virtual Mobile Networks (ICICV), Conference Paper, pp. 1517–1523, Electronic ISBN: 979-8-3195-2947-3, Conference date 20 May 2026 – 22 May 2026, Tirunelveli, India, DOI: 10.1109/ICICV68925.2026.11554773. Date Added to IEEE Xplore: 12 June 2026. **Abstract:** Skin dehydration is a significant indicator of dermatological and physiological conditions, but the existing methods of assessment involve invasive sensors or advanced medical equipment. This paper describes a non-invasive skin dehydration detection system that uses deep learning and image processing techniques. The proposed system uses a convolutional neural network developed on the ResNet50 model to classify skin images into four dehydration categories: Normal, Mild, Moderate, and Severe. The dataset used in this research work is gathered from publicly accessible image sources and dermatology image databases. Images of different dehydration levels are filtered, classified, and validated to ensure that the images are clear and relevant to the dehydration categories. The dataset is then arranged in class-wise folders and preprocessed using image resizing, normalization, and augmentation techniques to improve the robustness of the model and prevent overfitting. The trained model identifies the characteristic texture and surface patterns of dehydration levels. The experimental results show that the proposed system is capable of classifying dehydration levels effectively, offering a low-cost and user-friendly solution to dehydration measurement systems based on sensors.

15.



Arthi S, Dharsha M, J. Thresa Jeniffer, "Multi-Modal Stacking Ensemble (MMSE-TB) Framework for Robust Tuberculosis Diagnosis via Heterogeneous Deep Learning Models", 2025 Asian Conference on Communication and Networks (ASIANComNet), Conference Paper, pp. 1–7, Electronic ISBN: 979-8-3315-8809-0, Conference date 29 December 2025 – 31 December 2025, Zarqa, Jordan, DOI: 10.1109/ASIANCOMNET68615.2025.11579714, Date Added to IEEE Xplore: 30 June 2026.

Abstract— TB is still among the major global health problems, especially in low- and medium-income economies, where access to speedy and precise diagnostics is still poor. We present a Multi-Modes Stacking Ensemble on Tuberculosis (MMSE-TB), a model that combines three modalities, which are diverse and complementary, that are used to detect tuberculosis; these include chest X-ray, cough audio, and clinical text. The modalities are modeled with separate architectures of deep learning: A FeatureMap-Normalized CNN, which extracts radiological features, a Capsule Network, which predicts patterns with space-temporal correlations of a cough spectrogram, and a BioBERT-generated encoder, which predicts features of clinical text with semantic meaning behind them. Models are combined using a dynamically optimized weighting program using the Mayfly Optimization Algorithm to contribute dynamically, confidently, and reliably with all modalities. Experimental analysis has demonstrated that this tri-modal ensemble has a drastic positive effect on the accuracy of diagnostic performance, as well as a decrease in false negative rate and a high quality of robustness even in heterogeneous data sets. This architecture has a scaled, clinically flexible way of screening TB through artificial intelligence.

16.

Dr A Tamizhselvi
Published an Indian Patent

Patent Published

Title of the invention: Hybrid Machine Learning-Based Cloud–IOT Framework for Real-Time Fraud Detection in E-Commerce Transactions

Name of Inventor:

1 . Prof. Neeraj Paliwal
2 . Dr K S Eswara Rao
3 . Dr. S. B. Manooj Kumaar
4 . Maganti Lakshmi Tirupatamma
5 . Dr A Tamizhselvi
6 . Kiran Kumar Gorrepati
7 . Dr. Sarita Agarwal
8 . Saranya R
9 . Dr. Amrita Tatia Karnawat
10 . Urlam Pranita
11 . G S Rajitha Priya
12 . K. Vinod Babu

Patent Application Number: 202621041743
Date of filing of Application: 01/04/2026
Publication Date: 29/05/2026

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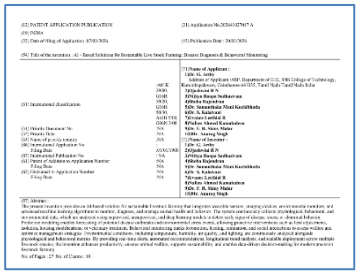

Mrs.Shoba Rajendran
Published an Indian Patent

Title of the invention: AI - Based Solutions for Sustainable Live Stock Farming: Disease Diagnosis & Behavioral Monitoring

Name of Inventor:
1)Dr. G. Arthy
2)Ojashwini R N
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10) Mr. Anurag Singh

Patent Application Number: 202641027017
Date of filing of Application: 07/03/2026
Publication Date: 20/03/2026

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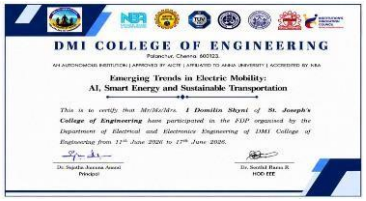

Sample FDP Certificate

Seminar/ FDP Attended by Faculty

S.No	Title of the topic	Name of the Staff	Conducted By	Date
1.	Emerging Trends in Electric Mobility	Mrs.I.Domilin shyni	DMI college of Engineering	11-6-26 to 17-6-26(6 days)
2.	Generative Al, Intelligent Systems and Al Entrepreneurship,"	Mrs.S.Santhanalakshmi	Aalim Muhammed Salegh college of Engineering	15-06-2026 to 20-06-2026

19.

Sample NPTEL Certificate

NPTEL – Courses Completed by Faculty

SNO	Name of the Staff	Title	Period	REMARK
1	Ms G Lathaselvi	Business Intelligence &Analysis	12 weeks (Jan-Apr 2026)	Elite
2	Dr C Heltin Genitha	Business Intelligence &Analysis	12 weeks (Jan-Apr 2026)	Elite
3	Dr A Tamizhselvi	Computer Network and Internet Protocol	12 weeks (Jan-Apr 2026)	Elite
4	Dr DuraiMurugan S	Systems and Usable Security	4 weeks (Jan-Feb 2026)	Elite

				Mathematical Foundations of Machine Learning	12 weeks (Jan-Apr 2026)	Elite
				Block chain and its Application	12 weeks (Jan-Apr 2026)	Elite
			5	Dr.Gnanaprakasam C N	Data Base Management System	8 weeks (Jan-Mar 2026)	Elite
			6	Mr K R RadhaKrishnan	Business Intelligence &Analysis	12 weeks (Jan-Apr 2026)	Successfully Completed
			7	Mr A..Abdur Rahman	AI in Human Resource Management	12 weeks (Jan-Apr 2026)	Successfully Completed
			8	Mrs K.Subha	Edje Comuting	8 weeks (Jan-Mar 2026)	Elite
			9	Mrs I Domilin Shyni	Business Intelligence &Analysis	12 weeks (Jan-Apr 2026)	Elite
			10	Mrs R Shoba	Introduction to Cybersecurity	12 weeks (Jan-Apr 2026)	Elite Sliver

DEPARTMENT OF MATHEMATICS AND ENGLISH

Events	Remarks
Publications(only published) details	1, **Purushothaman, G**., Chandrasekaran, E., Chatzarakis, G. E., & Thandapani, E. (2026). " Oscillation criteria for second-order half-linear advanced differential equations arising in bacterial population dynamics ". Mathematica Bohemica, 1–16. https://doi.org/10.21136/mb.2026.0066-25