



## **PSG Institute of Technology and Applied Research**

**(An Autonomous Institution)**

**Neelambur, Coimbatore – 641062**

### **Industry-Academia Conclave 2025 – A report**

#### **Inauguration and Panel Discussion 10th October 2025**

The eighth edition of Industry-Academia Conclave 2025, with the theme Engineering the Future with AI, organised by PSG Institute of Technology and Applied Research, Neelambur, Coimbatore was inaugurated on 10th October 2025.

In his felicitation address, the principal Dr N Saravanakumar emphasised the significance of the theme of the conclave and how AI augments human intelligence to solve problems and design better systems.

The two-day event, held on 10th and 11th October 2025, features a series of talks, interactive sessions, MoU signings, and a project exhibition showcasing nearly 100 student teams across various engineering streams. The programme also included faculty–industry interactions and presentations to industry panels on developing a roadmap for integrating AI into education, research, and practice.

The Chief Guest was Dr Sunny Manchanda, Director - DRDO Young Scientists' Lab-AI, Bangalore. His talk was filled with anecdotes and visual analogies to emphasise the importance of mathematical thinking. He motivated the students that getting stuck or failing is a good thing for growth in a research mindset. While quoting renowned scientists like Neil Bohr and Feynman, he insisted on doing research and using AI for the right reasons with a healthy dose of scepticism.

The inaugural event also marked the official announcement of the institution's annual flagship contest, iTech Ideathon 2026. Dr Abdul Aleem M I, Dean, Centre for Industry Interaction and Outreach, pronounced the vote of Thanks. Heads of various Departments, faculty members and students graced the occasion. The conclave concludes on 11th October 2025 with 20 individual technical sessions on AI and its future scope in core disciplines of engineering by scientists and experts from various industries and Entrepreneurs.

The inaugural was followed by a panel discussion moderated by Dr. R. Manimegalai, Associate Dean, Industry Interaction and Outreach. The panel comprised:

- Dr. Sunny Manchanda, DYSL–AI
- Mr. Varun Kumar Nagarajan, Senior Vice President, Arceium,
- Mr. Vivek Suriyamoorthy, Co-Founder and CTO, Everstage, Coimbatore, and
- Mr. Satya Dhulipala, Head, Coimbatore IT Center, SLB Technology, Coimbatore.

The panellists shared insights from their work in building AI products, integrating AI into enterprise systems, transforming traditional industries, and developing AI solutions for national security. The discussion explored how AI-driven disruption can be harnessed for career advancement and technological innovation. The session concluded with an engaging Q&A and experience sharing from the experts.

The conclave will conclude on 11th October 2025 with 20 technical sessions focusing on the applications and future scope of AI across various core engineering disciplines, featuring talks by scientists, industry experts, and entrepreneurs.



## Department of Civil Engineering

### Report on Sessions held on Day 1 | 10<sup>th</sup> October 2025 Project Expo

**Time: 01:30 pm to 04:30 pm**

**Theme: Application of Artificial Intelligence in Civil Engineering**

**Guest Details: Dr.Simon Jayasingh, Co-Founder & Managing Director, Yatzar Creations, Coimbatore.**

**Beneficiary: 61 students (17 Teams)**

As part of Day 1 of the Industry Academia Conclave 2025, the Department of Civil Engineering organized a Project Expo on 10th October 2025, centred on the theme “Application of Artificial Intelligence in Civil Engineering.” The Expo provided a vibrant platform for students to showcase innovative applications of AI technologies such as machine learning, computer vision, predictive analytics, and smart automation across key civil engineering domains. A total of 61 students, forming 17 teams, actively participated in the event. Each team presented unique and technically sound projects, demonstrating creativity, practical problem-solving skills, and a strong understanding of AI-driven solutions. The projects were evaluated by Dr. Simon Jayasingh, Co-Founder & Managing Director of Yatzar Creations, Coimbatore, who assessed them based on originality, feasibility, real-world relevance, clarity of presentation, and effective integration of AI techniques. His feedback provided valuable industry insights and guidance for improvement. The Project Expo emerged as a key highlight of the conclave, reflecting the department’s commitment to innovation, industry collaboration, and preparing students to address future civil engineering challenges using intelligent and sustainable solutions. Among the participants, the team SmartCiv (Aishvarya R.T, Akshara K.B, Akshaya K.G, Pramika K) secured the First Prize. The team Optimate (Kishoreraj S, Claudia Elena B) won the Second Prize, while the team Buildwise (Avijith Vigneshwar S, Haritharan S, Jerishin J, Mohamed Anas J) achieved the Third Prize for their outstanding performance.

#### **Outcomes:**

- Students gained direct exposure to industry expectations in the domain of AI-enabled civil engineering.
- The event strengthened the academia–industry relationship, facilitating potential collaboration and internship opportunities.
- Students developed confidence in presenting complex technical ideas to expert audiences.
- The event highlighted the department’s commitment to integrating emerging technologies into civil engineering education.
- It inspired future research initiatives and project directions among students and faculty.



## Report on Sessions held on Day 2 | 11<sup>th</sup> October 2025

### Session 1: 09:00 am to 10:30 am

Speaker Details: Dr. G R DODAGOUDAR, Professor, Indian Institute of Technology Madras, Chennai

Topic: Artificial Intelligence for the Smarter Infrastructure

Beneficiary: 200 students

Dr. Dodagoudar began by outlining the evolution of Artificial Intelligence, from rule-based systems to modern neural networks capable of learning and decision-making. He explained how AI has become integral to daily life, powering applications in healthcare, transportation, and social media through intelligent algorithms that personalize and optimize user experiences. Focusing on Civil Engineering, he emphasized the growing role of Machine Learning and AI in geotechnical applications, including the prediction of soil behavior, slope stability, and ground settlement. He illustrated how data-driven models and image recognition techniques can aid in site characterization, subsurface mapping, and structural health monitoring using drone-based inspections. He also stressed the importance of mathematics, particularly linear algebra, statistics, and optimization, as the foundation for understanding AI models and ensuring reliable engineering outcomes. The session concluded with an engaging discussion, where faculty and students interacted with the speaker on AI tools, data interpretation, and future research opportunities in smart geotechnical systems.

### Outcomes

- Inclusion of AI and ML integrated course in the autonomous curriculum for the possible and relevant subject areas like “Applications of Machine Learning in Civil Engineering, Data Analytics for Civil Engineers, AI-Based Structural Design and Performance Prediction, Digital Twins and Smart Infrastructure Systems”.
- Providing value added course to students on the topics “Remote Sensing and AI for Environmental Monitoring and Deep Learning for Structural Image and Signal Processing”.



## Session 2: 11:00 am to 12:30 pm

Speaker Details: Mr. K R R CHANDRAN, Vice President, Special Initiatives L&T Construction, Chennai

Topic: AI in Construction for Civil Engineers

Beneficiary: 200 students

Mr. Chandran delivered an insightful session highlighting the transformative role of Artificial Intelligence in the construction industry. He explained how AI tools are being effectively applied in various construction activities such as project planning, progress tracking, quality control, safety monitoring, and resource optimization. Through practical examples from L&T's projects, he demonstrated how AI-driven technologies enhance productivity, minimize errors, and improve decision-making efficiency in large-scale construction works. He emphasized that AI is becoming an essential skill for modern civil engineers, and urged students to stay updated with emerging digital tools and technologies. Mr. Chandran encouraged the audience to develop a strong understanding of AI concepts and learn the right tools relevant to construction management, design automation, and predictive maintenance. The session concluded with an interactive discussion, where students and faculty gained valuable insights into the future of AI-driven construction practices and the skills required to excel in the evolving engineering landscape.

### Outcomes

- The interaction fostered stronger industry–academia collaboration with L&T, paving the way for internships, live projects, and joint initiatives in smart construction technologies.
- The resource person will be engaged in delivering a series of technical lectures in the field of AI to train the faculty and students which helps in bridging the gap between industry and academia.



### Session 3: 01:30 pm to 02:45 pm

Speaker Details: Mr. A SOUNDARARAJAN, Head – Engineering, Eversendai Construction Private Limited, Chennai

Topic: Struggles and Secrets behind Engineering Marvels

Beneficiary: 200 students

Mr. Soundararajan delivered an engaging lecture showcasing the remarkable engineering achievements of Eversendai in constructing tall and iconic structures across India and abroad. He presented several case studies of skyscrapers and complex steel structures designed and executed by the company, highlighting the technical challenges and innovative solutions adopted in each project. He elaborated in detail on the construction of India's tallest and most renowned monument – the Statue of Unity, explaining the stage-by-stage process of planning, material fabrication, assembly, and erection. Through visuals and project insights, he demonstrated how precision engineering, advanced materials, and modern construction technologies come together to create such monumental structures. He also discussed the role of Artificial Intelligence in modern construction, particularly in structural modeling, design optimization, quality assurance, and project monitoring. The session was highly informative and inspired students to appreciate the blend of innovation, technology, and engineering excellence behind modern infrastructure marvels.

#### Outcomes

- Through ongoing interactions with the resource person, students will be provided internship opportunities, with the potential for these internships to lead to full-time job offers based on performance.



#### **Session 4: 03:00 pm to 04:30 pm**

Speaker Details: Dr. SIMON JAYASINGH, Co-Founder & Managing Director, Yatzar Creations Private Limited, Coimbatore.

Topic: Sustainable BIM and AI

Beneficiary: 200 students

Dr. Jayasingh delivered an insightful talk highlighting the growing integration of Building Information Modeling and Artificial Intelligence in promoting sustainable construction practices. He explained how BIM acts as a digital platform for visualizing, simulating, and managing construction projects efficiently, while AI enhances its functionality through data analytics, predictive modeling, and automation. He emphasized that Sustainable BIM extends beyond 3D modeling to include environmental considerations such as energy efficiency, material optimization, and life-cycle assessment of structures. Dr. Jayasingh also discussed the perspective of information in design, stressing how the integration of BIM across disciplines ensures better collaboration, accuracy, and data consistency throughout the project life cycle. He demonstrated how combining AI with BIM leads to smart, data-driven decision-making, improving design precision and reducing resource wastage. The session concluded with an interactive discussion, inspiring students and faculty to explore the potential of AI-integrated BIM in advancing sustainable, technology-driven construction practices.

#### **Outcomes**

- Collaboration with the resource person to develop AI-integrated BIM tools, fostering practical skills, innovation, and hands-on experience among students.



**Department of Computer Science and Engineering & Department of Artificial Intelligence and Data Science**

**Project Expo - CSE**

**10.10.2025 01:00 pm to 04:30 pm (CSE Peer Learning Hall)**

**P. Manimaaran,**

Technical Architect - Data, Tech Mahendra.

**200 students participated**

**Winners:**

**SARZ:** Deepak Chandrashekar (3rd CSBS), Muthu Harish T (3rd CSBS), Abhimanya S (3rd CSBS), Kovardhan Manikandan (3rd Mech)

**Runners-Up:**

**Titan Edge :** Harsith S (3rd CSE), Lakshana G (3rd CSE), Swethaswini R (3rd CSE)

**Copters:** Praveen Barathi K (4th CSE), Subhika V (4th CSE), Srirengapriya G (4th CSE), Mohithaa P (4th CSE)

Mr. P. Manimaaran was invited as the Chief Guest and Judge for the eighth edition of the Industry Academia Conclave 2025. The expo showcased innovative AI-based projects developed by students from different years of study, demonstrating the remarkable talent and creativity present within the institution.

Mr. Manimaaran conducted thorough evaluations of each project, demonstrating genuine interest and engagement with the student teams. His assessment methodology was comprehensive, focusing on multiple critical criteria including innovation potential, technical implementation quality, practical feasibility, presentation effectiveness, and market viability. Throughout his interactions with the teams, he showed remarkable appreciation for the students' enthusiasm, technical acumen, and creative problem-solving approaches. His feedback sessions were particularly valuable, as he provided constructive insights drawn from his extensive industry experience.

During the evaluation process, Mr. Manimaaran emphasized the crucial importance of applying AI concepts to address pressing real-world challenges across diverse sectors. He particularly highlighted the significance of developing solutions that could make meaningful impacts in healthcare delivery, environmental sustainability, transportation efficiency, and security enhancement. The Project Expo was concluded successfully with student teams receiving detailed evaluation reports from Mr. Manimaaran. The feedback emphasized the integration of AI with traditional engineering fundamentals.



**Outcome:**

The most innovative product identified at the project expo has been proposed for a patent.

## **Project Expo - AIDS**

**10.10.2025 01:00 pm to 04:30 pm (E3 - Data Science Lab)**

**P. Vasanthaseelan,**

Technical Head,

Bosch

**120 students Participated**

**Winners :**

**GOWA -** Kuhan M (Final AI&DS)

**AgroSentry-** Sharvesh K (Final AI&DS), Tiruvikraman V (Final AI&DS)

**Runners-Up:**

**IGNITIQ**

Anushri G M (2nd AI&DS), Charulekha S (2nd AI&DS), Deya Aswini D (2nd AI&DS), Kabilasri K (2nd AI&DS)

**Atlas**

Risheekesh K G (3rd AI&DS), Harikrishna (3rd AI&DS), Hariharan V (3rd AI&DS)

### **About the Session**

Mr. P. Vasanthaseelan was invited as the Chief Guest and Judge for the expo that showcased innovative AI-based projects developed by students from different years of study, demonstrating the remarkable talent and creativity present within the institution. Mr. P. Vasanthaseelan conducted thorough evaluations of each project, demonstrating genuine interest and engagement with the student teams. His assessment methodology was comprehensive, focusing on multiple critical criteria including innovation potential, technical implementation quality, practical feasibility, presentation effectiveness, and market viability. Throughout his interactions with the teams, he showed remarkable appreciation for the students' enthusiasm, technical acumen, and creative problem-solving approaches. His feedback sessions were particularly valuable, as he provided constructive insights drawn from his extensive industry experience. During the evaluation process, Mr. P. Vasanthaseelan emphasized the crucial importance of applying AI concepts to address pressing real-world challenges across diverse sectors. He particularly highlighted the significance of developing solutions that could make meaningful impacts in healthcare delivery, environmental sustainability, transportation efficiency, and security enhancement. The Project Expo was concluded successfully and students received detailed evaluation reports from Mr. P. Vasanthaseelan. The feedback emphasized the integration of AI with traditional engineering fundamentals.



**Outcome:**

The most innovative product identified at the project expo has been proposed for a patent.

Day 1 : 10.10.2025 2.00 pm - 3.30 pm ( PSG Convention Center)

Mr. Palanisamy Loganathan,  
Delivery Head,  
TCS, Coimbatore

**“AI is Here, but Code is Forever”**

The session on “AI is Here, but Code is Forever” was delivered by Mr. Palanisamy Loganathan, Delivery Head, Tata Consultancy Services, Coimbatore. Dr. M. Sangeetha welcomed the speakers and Dr. S. Kalarani presented them with a memento as a mark of appreciation.

Mr. Palanisamy started the session articulating the continued relevance of human developers despite the growth of artificial intelligence. He complimented the facilities of the institution and the efforts of the teaching faculty to merge academic education and professional industry standards. Then, he went onto discuss important trends in the industry and the rapid transformation of AI, sharing his views as to how students can secure their career paths. He shared Gartner's projections, noting that global spending on generative AI will be projected to reach 644 billion dollars in 2025 and increase to 3.2 trillion dollars by 2034.

Mr. Maheshwaran presented real-world AI deployment in software builds, such as automated code building, design asset integration, and predictive modeling incorporating machine learning and large language models.

In concluding the session, Mr. Palanisamy emphasized the necessity of balancing opportunity and risk concerning students' engagement with artificial intelligence. He urged students to fortify their fundamental coding abilities in conjunction with their proficiency in AI, asserting that coding constitutes the bedrock of innovation.



Outcome:

Mr. Maheshwaran showcased practical AI integrations in software development, including automated code generation, design asset incorporation, and predictive modeling via machine learning and large language models. This illustrated how AI enhances efficiency in professional builds without replacing core coding skills.

Day 2 : 11.10.2025 9.00 am - 10.30 am ( PSG Convention Center)

**Mr. Karthick Rameshkumar,**  
Director at GitHub,  
Bengaluru

### **“Build for the World: AI, Open Source, and the New Era of Engineering on GitHub”**

#### **About the Session**

The session “Build for the World: AI, Open Source, and the New Era of Engineering on GitHub” was delivered by Mr. Karthick Rameshkumar, Director of Field Services, APAC-West at GitHub. The program commenced with a welcome address by Dr. B. Gomathi, and the resource person was honored with a memento by Dr. C. L. Vasu and Dr. S. Kalarani. Mr. Karthick began by outlining the key pillars of career success, emphasizing the importance of open-source contributions as a strong career accelerator. He explained how contributing to open source enables students to work on real-world production code, collaborate globally, and build credibility within the developer community. Highlighting GitHub’s massive ecosystem of developers and repositories, he illustrated the scale and impact of open collaboration. He presented a structured roadmap for first-year students: initially creating a GitHub profile, learning fundamentals, making commits, and exploring projects; later contributing to documentation, resolving beginner-friendly issues, submitting pull requests, and building small projects; and eventually specializing in a chosen technology stack. A live demonstration of GitHub Copilot showcased how AI-assisted development can enhance productivity, including references to projects such as NASA’s Astrobee Robot. The session also introduced modern developer tools and emphasized maintaining a strong GitHub profile as a digital resume. Concluding with a 30-day action plan and interactive Q&A, the session motivated students to transition from learners to active contributors and aspiring technology leaders.



#### **Outcome:**

The session highlighted open-source contributions as a key to career growth, guiding students to build skills through real-world projects and collaboration. It provided a clear roadmap, introduced AI tools like GitHub Copilot, and emphasized maintaining a strong GitHub profile, motivating students to become active contributors and future-ready professionals.

Day 2 Session 2

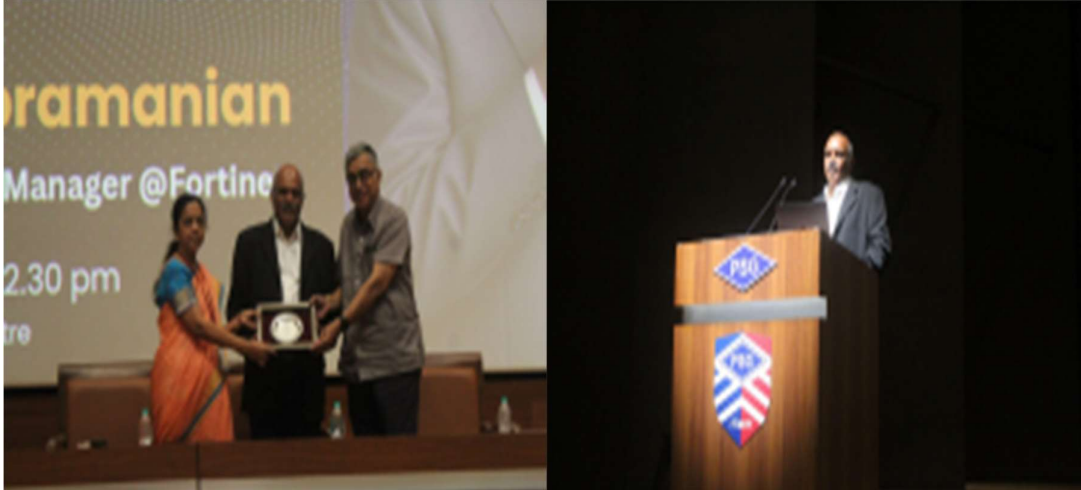
11.10.2025 11.00 am - 12.30 pm ( PSG Convention Center)

**Mr. Valan Sivasubramanian,**

Manager, System Engineering at Fortinet,  
Bengaluru

**“AI & Security: Better Together”**

The session “AI & Security: Better Together” was delivered by Mr. Valan Sivasubramanian, Manager – System Engineering at Fortinet, Bengaluru. The program began with a welcome address by Lt. Vilasini, followed by the felicitation of the speaker by Dr. C. L. Vasu and Dr. S. Kalarani. Mr. Valan provided valuable insights into the growing role of Artificial Intelligence in strengthening cybersecurity. He explained how Fortinet’s Security Fabric delivers end-to-end protection across complex IT infrastructures. Special emphasis was given to FortiAI, an AI-powered solution that enhances threat detection and response. He described the FortiAI Virtual Security Analyst (VSA) as an intelligent engine capable of autonomously identifying and mitigating advanced cyber threats, significantly reducing response time in Security Operations Centers (SOCs). Through real-world examples, he highlighted how AI-driven security solutions are transforming enterprise and government cybersecurity strategies. He also guided students on preparing for careers in cybersecurity by building expertise in AI, network security, and threat intelligence. The session concluded with an interactive Q&A on cybersecurity careers and intelligent threat management, followed by a memento presentation expressing gratitude for his insightful contribution.



Outcome:

Plans are underway to sign an MoU with Fortinet to enhance cybersecurity infrastructure through a dedicated lab and tools.

**Day 2 Session 3 : 11.10.2025 1.30 pm - 3.00 pm ( PSG Convention Center)**

**Mr. S. Ramachandran,**  
Practice Leader at HFS Research

**“Curating a Niche Career Path in Physical AI”**

The session “Curating a Niche Career Path in Physical AI” was delivered by Mr. S. Ramachandran, Practice Leader at HFS Research. The program began with a welcome address by Mr. C. Santhosh, followed by Dr. S. Kalarani presenting the speaker with a memento. Mr. Ramachandran explored the broad landscape of Artificial Intelligence, including Enterprise AI, Business AI, Physical AI, and Generative AI. He emphasized that demonstrated skills often outweigh degrees when pursuing careers in global companies such as Google and IBM. He discussed “AI for Fun” and “AI for Social Good,” sharing examples from sports analytics and entrepreneurial applications. Highlighting Physical AI, he referenced robots like Spot and Atlas from Boston Dynamics. He also explained emerging concepts such as Agentic AI and Zero-shot Learning, citing NVIDIA’s Omniverse and collaborations driving digital twin innovation. Stressing balanced automation, he mentioned lessons from Tesla. The session concluded with guidance on neoskilling, T-shaped learning, and purpose-driven growth.



Outcome:

The session broadened students’ understanding of emerging AI domains, especially Physical AI and Agentic AI. It emphasized skill-based career growth, neoskilling, and T-shaped learning. Students were motivated to explore innovative applications, balance automation responsibly, and pursue purpose-driven careers while developing practical expertise relevant to global technology industries.

**Session 4: 11.10.2025 3.15pm - 4.45pm ( PSG Convention Center)**

**Mr. S. Selvaraaju Murugesan,**  
Head - Data Science, [Kovai.co](http://Kovai.co)

### “Agentic AI”

The session on “**Agentic AI**” was delivered by Dr. Selvaraaju Murugesan, Head of Data Science at Kovai.co. The program began with a warm welcome by Dr. S. Sangeetha, followed by Dr. S. Kalarani and Dr. R. Manimegalai presenting the speaker with a memento as a token of appreciation. Dr. Selvaraaju introduced Agentic AI as the next evolution of intelligent systems capable of reasoning, planning, decision-making, and autonomous action. He explained that these systems are built upon Large Language Models (LLMs) such as GPT-3 and GPT-4. He clarified the role of the temperature parameter in LLMs, highlighting how it influences creativity and predictability in generated outputs. Comparing earlier models like N-grams with modern deep learning approaches, he described advancements through embeddings and contextual learning. A key focus of the session was Retrieval-Augmented Generation (RAG), which enhances LLM performance by combining retrieval mechanisms with text generation. He distinguished AI agents from traditional chatbots and addressed challenges such as trust, short-term memory, and balancing cost with accuracy. To overcome these challenges, he introduced frameworks like Microsoft AutoGen, Semantic Kernel, CrewAI, and LangChain, concluding that Agentic AI represents a significant shift toward proactive, context-aware intelligent systems.



Outcome:

Internship opportunities are in progress, with candidate interviews already conducted by Kovai.co

### **CSE and AIDS - IAC Outcomes:**

- A Value-Added Course in Cybersecurity will be offered with expert support from Fortinet professionals, enabling students to gain industry-relevant skills.
- A faculty industrial visit to Fortinet is planned to provide exposure to real-world cybersecurity practices and technologies.
- A two-day Faculty Development Program (FDP) will be organized in collaboration with GitHub, Bengaluru,

## Department of Electronics and Communication Engineering

Day 1 : 11<sup>th</sup> October 2025

**Session 1 Topic:** The Role of AI in Semiconductor Chip Design and Fabrication - Future Roadmap and Opportunities

**Speaker:** Dr. Jayaraj U Kidav, Executive Director, NIELIT Deemed to be University Campus Aurangabad, Maharashtra.

The Role of AI in Semiconductor Chip Design and Fabrication - Future Roadmap and Opportunities" was delivered by Dr. Jayaraj U Kidav, Executive Director of NIELIT Deemed to be University Campus, Aurangabad, Maharashtra. In this insightful session, Dr. Kidav highlighted how artificial intelligence is revolutionizing semiconductor design and manufacturing by enabling faster, more efficient, and highly optimized chip development processes. He emphasized the transformative potential of AI-driven automation in enhancing design accuracy, reducing time-to-market, and managing the increasing complexity of modern chips. The talk also outlined future trends and opportunities where AI integration could propel innovations in fabrication techniques, predictive maintenance, and quality control, thereby shaping the roadmap for next-generation semiconductor technologies.



**Session 2 Topic:** Sensors to Smarts Transformation by Intelligence for Future Systems

**Speaker:** Mr. S. Karthikeyan, Technical Head (IoT & Edge AI), eDigiM Research Pvt Ltd., Bangalore

The theme “Sensors to Smarts: Transformation by Intelligence for Future Systems” emphasizes the evolution of intelligent technologies that bridge the gap between sensing and decision-making. Modern sensors, when integrated with artificial intelligence and machine learning, enable systems to move beyond data collection toward real-time insights and autonomous operations. As part of the Industry Academia Conclave, expert guest lectures were delivered on the latest advancements in smart sensors and their applications in future intelligent systems. These sessions provided participants with valuable exposure to cutting-edge technologies and design methodologies. In addition, students were encouraged to translate their learning into practice by developing innovative projects using smart sensors, fostering creativity, problem-solving, and hands-on experience in intelligent system design.



**Session 3 Topic:** Applications of AI in Electronics and Embedded Systems

**Speaker:** Ms Kashreya Jayakumar, Senior Hardware Engineer, Bosch Global Software Technologies, Coimbatore

Ms. Kashreya Jayakumar, Senior Hardware Engineer at Bosch Global Software Technologies, Coimbatore, delivered an insightful session on the applications of AI, electronics, and embedded systems. She highlighted the key differences between Embedded AI and Traditional AI, noting that Embedded AI functions independently of cloud servers, offering enhanced data privacy and security, unlike cloud-dependent Traditional AI. Ms. Kashreya also shared Bosch’s initiatives in integrating AI across its products and presented a video from CES 2025 showcasing Bosch’s AI-enabled E-Bike with features such as battery lock and intelligent range control.



**Session 4 Topic:** AI in Embedded Systems

**Speaker:** Ms N. Kavitha, Director, STEPS Knowledge Services Pvt. Ltd., Coimbatore

The session on “*AI in Embedded Systems*” was delivered by Ms. N. Kavitha, Director of STEPS Knowledge Services Pvt. Ltd., Coimbatore. In her insightful talk, Ms. Kavitha discussed how Artificial Intelligence is being integrated with embedded hardware platforms such as FPGA, HDL, and custom ASICs to enable intelligent edge solutions. She highlighted the use of neural network models on hardware accelerators like AMD Ryzen-based processors for efficient real-time processing. The session also explored key domains such as Data Engineering, OpenAI applications, and BFL cloud frameworks, along with real-world use cases in finance, healthcare, and automotive industries. She further shared information about government funding opportunities in Tamil Nadu that support innovation with grants of up to ₹10 lakhs for student projects. The lecture concluded with an encouraging note on the vast career and research opportunities in the AI-Embedded ecosystem for young engineers and researchers.



## **ECE Project Expo**

Students' Expo showcasing AI-based projects developed by students was held on 10th October 2025. 20 teams (from II ECE and III ECE) participated. The project expo was evaluated by both internal and external jury members. The external jury member was Mr. K. Gowtham, Lead Engineer at Mahindra First Choice Wheels, and the internal jury member was Dr. C. Arvind, Professor, Department of ECE.

First Prize:

Project Title: Solar powered AI based dynamic Wireless EV Charging

Team Members: Sri Harini S, Sri Harish J S, Sudharshana MK (III ECE B)

Cash Prize: 5,000/-

Second Prize:

Project Title: Prosthetic Limb Scan

Team Members: Gitthesh R, Kathin Sankar A, Aswin P, Asrar Ahamed K, Dharaneesh S G (II ECE A)

Cash Prize: 3,000/-

Third Prize:

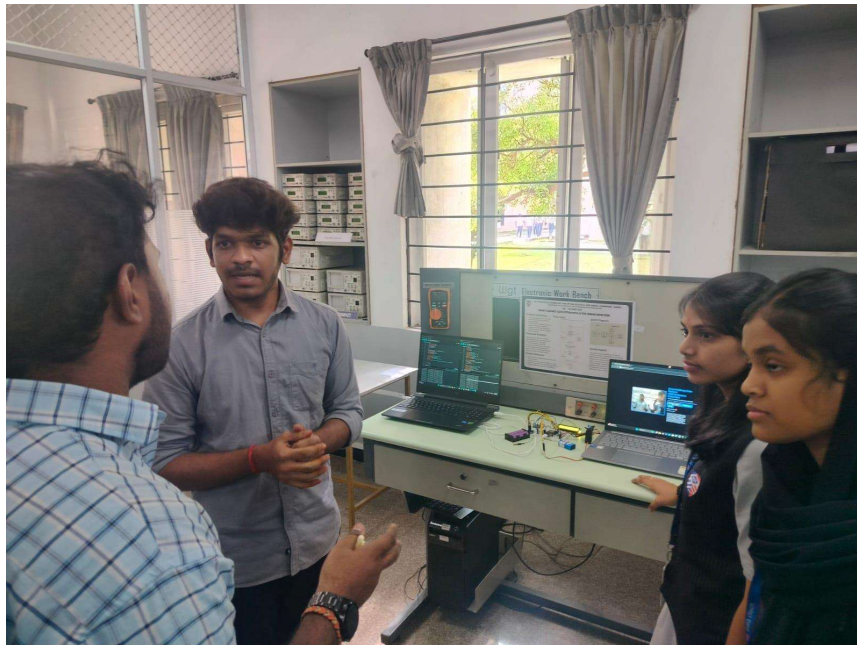
Project Title: CropCare – An AI Powered Smart Farming Assistant

Team Members: Subhana K, Reshma S, Vishalkanth K S, Tharun V, Sandhiya S (III ECE B)

Cash Prize: 2,000/-

The Project Expo provided a platform for students to showcase their innovative ideas and technical expertise in Artificial Intelligence. Various teams presented AI-based solutions addressing real-world challenges. The event received positive feedback from the Industrial experts, Jury members and faculty members for its creativity, innovation, and technical depth.

The award felicitation ceremony was conducted on 11th October 2025.





### **Faculty Interaction and Outcomes**

There was a fruitful interaction with Dr. Jayaraj and the ECE faculty:

- Internship opportunities for ECE students in IIT and NIT were explored.
- Inputs for upgrading Research equipment and Problem statement in the Semiconductor field in domains of fabrication, characterisation and VLSI for AI applications were received.
- Startup opportunities in the field of VLSI design, testing and packaging were also discussed.

A highly productive discussion was held with Ms. N. Kavitha, Director of STEPS Knowledge Services Pvt. Ltd., Coimbatore, and the ECE faculty members regarding the Embedded and IoT Research Innovation Lab (EIRIL).

- Internship opportunities for ECE students with reputable institutions, such as IITs and NITs, were explored.
- Valuable inputs were received for upgrading research equipment and identifying problem statements related to embedded systems and IoT applications.
- Potential startup opportunities in embedded product design, testing, and innovation were discussed.
- Ms. Kavitha also suggested that when setting up EIRIL, the team should inform her during the sensor procurement stage, as she can provide expert suggestions and technical guidance for selecting suitable sensors and components.



## DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

### Session 1 “Role and impact of AI in Automotive Electronics Product Development”

October 11, 2025 and from 9.00 am to 10.15 am

Mr. Milton Crasto, Chief Technology Officer, ATHENIAC, Bengaluru

The first session of the Industry Academia Conclave 2025 was led by Mr. Milton Crasto, Chief Technology Officer at ATHENIAC, who discussed the transformative role of Artificial Intelligence (AI) in modern vehicles. He explained how today’s cars, especially luxury models, use nearly 100 Electronic Control Units (ECUs) powered by GPS and modem technologies for communication, diagnostics, and crash detection. Mr. Crasto emphasized the need for strong electrical, mechanical, and software engineering skills, along with testing, validation, and product lifecycle management in automotive design. He highlighted key AI applications such as autonomous driving, predictive maintenance, energy management, and personalized infotainment. Examples like Nissan’s 2025 AI-driven prototyping, which reduced development time by 35%, and AI Co-pilots replacing manual ECAD tasks, showcased AI’s impact on efficiency. He also discussed AI-based battery monitoring, thermal management, and smart infotainment systems with voice interaction and eco-navigation. The session concluded with insights on cybersecurity, ethical AI use, and data transparency, along with references to Mahindra’s MAIA and Mercedes-Benz’s MBUX platforms. Mr. Crasto encouraged students to strengthen their AI/ML foundations and apply them in automotive and electrical engineering to shape the future of intelligent mobility.



### Session 2 “Role and Impact of AI/ML in Engineering”

October 11, 2025 and from 10.45 am to 12.00 pm

Mr. Gaurav Upadhyay, Scientist U R Rao Satellite Centre (URSC), ISRO, Bengaluru

The second session of the Industry Academia Conclave 2025 was led by Mr. Gaurav Upadhyay, who discussed the growing role of Artificial Intelligence (AI) and Machine Learning (ML) in transforming modern engineering. He began by outlining the five stages of technology adoption — Innovators, Early Adopters, Early Majority, Late Majority, and Laggards — explaining how AI and ML are progressing along this curve. Mr. Upadhyay described AI as systems capable of learning and reasoning like humans, and ML as algorithms that learn from data without explicit programming. He noted that neural networks form the foundation of deep learning, enabling systems to process and adapt from large datasets. He emphasized that AI is reshaping the engineer’s role — automating repetitive tasks, enhancing creativity, and moving engineers toward strategic and analytical roles. To stay relevant, engineers must build data and coding literacy, gain proficiency in AI tools, and uphold ethical AI practices such as bias detection and model validation. The session also highlighted key AI applications — from autonomous navigation and lane detection in vehicles to satellite image analysis, fault detection, and mission optimization in space systems. In healthcare engineering, AI is improving diagnostics and predictive maintenance, including ECG signal analysis. Mr. Upadhyay concluded by urging students to master data science basics (NumPy, Pandas,

SciPy), advance to machine learning, and apply AI in electrical and electronic engineering. He stressed the importance of ethical and explainable AI, ensuring that technology remains a trusted ally in advancing the future of intelligent engineering.



### Session 3 “AI revolution in Engineering to Order (ETO) LV switchboard market”

October 11, 2025 and from 01.15 pm to 02.30 pm

Mr. Mohan Sadhanandham S, Sr General Manager Plant Head, Lauritz Knudsen Electrical & Automation Coimbatore

The third session of the Industry Academia Conclave 2025 was presented by Mr. Mohan Sadhanandham S, Plant Head – LV ETO, Lauritz Knudsen (Schneider Electric), Coimbatore. He discussed the AI revolution in the Engineering-to-Order (ETO) LV switchboard market, highlighting how artificial intelligence is transforming design, manufacturing, and customer experience in the electrical industry. Mr. Mohan explained the purpose of switchboards—protection, monitoring, and control—and outlined challenges in ETO switchgear manufacturing, such as high customization, complex configurations, and difficulty in cost estimation. He emphasized AI’s role in engineering accuracy, design automation, predictive quality, BOM optimization, knowledge-based design, and intelligent quotation systems, improving productivity and customer engagement. He also shared insights into Schneider Electric’s Coimbatore Switchgear Factory, established in 2007 under the Lauritz Knudsen brand. The 30-acre plant, employing over 90 professionals, serves sectors like Energy & Chemicals, Power Generation, and Infrastructure, and has received awards including the CII Digital Transformation Award 2023 (Gold) and RBNQA Performance Excellence Award. Sustainability initiatives were highlighted, including 30% renewable energy usage, 79 lakh litres of water recycled, and progress toward Net Zero operations, alongside the focus on Green Premium products and AI-driven manufacturing. The session concluded with encouragement for students to explore the intersection of AI, electrical systems, and manufacturing, underscoring how digital transformation is shaping the future of intelligent switchgear production.



## Session 4 “Are You Going to Shape AI or Chase It in Your Engineering?”

October 11, 2025 and from 3.00 pm to 4.45 pm

Mr. Mohan Krishnaswamy

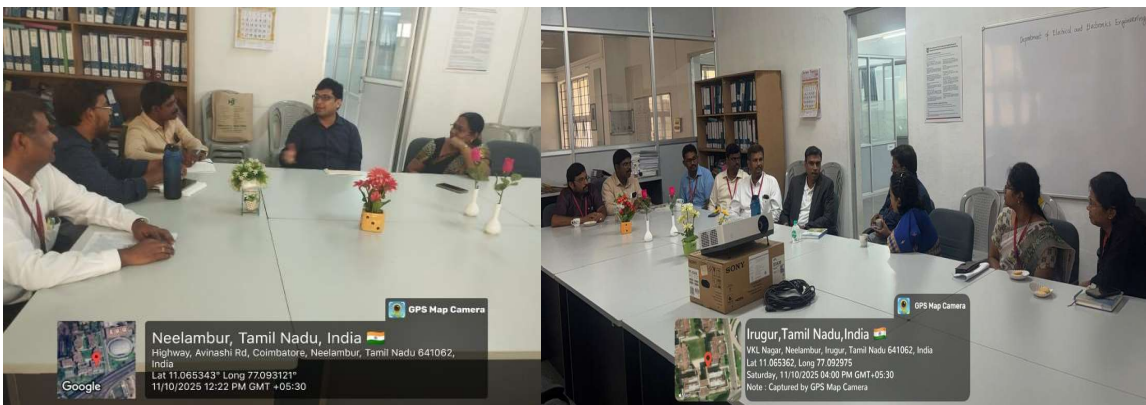
Department Head – Automation Steering Hardware Division,  
Bosch Global Software Technologies, Coimbatore

The fourth session of the Industry Academia Conclave 2025 was an inspiring interaction delivered by Mr. Mohan Krishnaswamy, Department Head of the Automation Steering Hardware Division at Bosch Global Software Technologies, Coimbatore. The talk, titled “Are You Going to Shape AI or Chase It in Your Engineering?”, encouraged students to reflect on their role in the rapidly evolving era of Artificial Intelligence. Mr. Mohan highlighted how AI is transforming traditional engineering domains, from automotive systems and control hardware to embedded and automation technologies. He emphasized that future engineers must not merely adapt to AI-driven changes but actively contribute to shaping ethical, explainable, and sustainable AI systems. The session also touched upon Bosch’s global initiatives in autonomous driving, sensor fusion, and predictive control, demonstrating how interdisciplinary collaboration between hardware and software teams accelerates innovation. He urged students to develop cross-domain skills—combining electrical fundamentals with data-driven modeling, machine learning, and IoT connectivity—to stay relevant and become creators rather than followers of technology. The interactive Q&A session helped participants understand real-world challenges in industrial AI adoption and motivated them to explore research opportunities in intelligent systems and automation. Overall, the session provided valuable insights into the future of AI-enabled engineering, inspiring students to lead technological change with curiosity, responsibility, and innovation.



### Faculty Interaction with keynote speakers:

Faculty interaction with all the keynote speakers arranged before the start of each session. The discussions elaborated on pro and cons of AI impact in industry, technology readiness for students and future direction of AI.





### Outcome:

- Mr. Milton Crasto, Chief Technology Officer, ATHENIAC, Bengaluru will support with internships to students who are interested in Automotive infotainment.
- Mr. Gaurav Upadhyay, Scientist U R Rao Satellite Centre (URSC), ISRO, Bengaluru will support with internships to students who are interested in satellite communication modules.
- Mr. Mohan Sadhanandham S, Sr General Manager Plant Head, Lauritz Knudsen Electrical & Automation Coimbatore agreed to give internships to students who are interested in the field of LV switchboard.
- Mr. Mohan Krishnaswamy Department Head – Automation Steering Hardware Division, Bosch Global Software Technologies, Coimbatore will support with startup related to energy analytics.

## DEPARTMENT OF MECHANICAL ENGINEERING

### Project Expo (10/10/2025)

As part of the Industry Academia Conclave, a Project Expo was organized in the E6 Mechanical Drawing Hall. The event witnessed active participation from II, III, and IV-year Mechanical students, who enthusiastically showcased their design and development projects. The projects were assessed by **Mr. Gokul Ganesan, Manager at ELGI Equipments Ltd., Coimbatore**. He evaluated each team's work, providing valuable insights and suggestions for further improvement in terms of technical depth, innovation, and practical implementation. Based on the evaluation scores, the top three teams were selected and appreciated for their outstanding performance and innovative ideas. The event served as a platform for students to demonstrate their engineering skills and receive expert feedback, bridging the gap between academic learning and industry expectations.

First Position: Aswin MC (715522114005) & Team

Second Position: Vijayaganapathi S (715522114054) & Team

Third Position: Mariajoseph Antonyraj J (715522114029) & Team



### Day 2 11/10/2025

Session 1 of IAC 2025 was delivered by **Mr. Arul Mozhi Selvan, Artificial Intelligence Engineer, Acabes International, Chennai**. His lecture was on the topic "AI in Sustainable Mechanical Engineering". His lecture covered the following aspects:



The speaker explained that AI technologies are being increasingly used in areas such as design optimization, predictive maintenance, process automation, and energy management. These applications help reduce material waste, lower energy consumption, and improve overall system efficiency. The expert highlighted

how AI-driven tools, like generative design and simulation software, support the creation of lightweight and efficient components with minimal environmental impact. In manufacturing, the integration of AI with Industry 4.0 technologies is enabling real-time decision-making and smarter production systems. This leads to reduced emissions, better resource utilization, and more sustainable operations.

**Proposed Outcomes:**

- Introduction of elective subjects such as "AI Applications in Mechanical Engineering" or "Sustainable Design using AI".
- Incorporation of AI-related case studies and tools (e.g., Python, MATLAB, simulation software) into existing courses.
- Identification and execution of student final-year projects focused on AI applications.

Session 2 of IAC 2025 was delivered by **Mr. Aninda Bhattacharya, Data Science Lead, ABB Process Automation Digital, Bengaluru**. His lecture was on the topic “Digital Twins in Mechanical System Design”. His lecture covered the following aspects:



The speaker explained that digital twins help engineers predict system behavior, detect faults early, and improve performance while reducing development time and costs. The technology allows for enhanced testing of design changes without physical prototypes, leading to faster innovation cycles and more reliable products. The expert emphasized the integration of sensors, IoT, and AI in creating dynamic digital twins that continuously update and provide actionable insights. Challenges such as data management, integration complexity, and skill gaps were noted, alongside the critical role of collaboration between academia and industry to develop relevant tools, training, and research initiatives.

**Proposed Outcomes:**

- Incorporation of digital twin simulation tools (e.g., CAD software with digital twin capabilities) in laboratory exercises.
- Organization of expert guest lectures or webinars focused on practical implementation of digital twins.

Session 3 of IAC 2025 was delivered by **Mr. Sujesh Sudhakaran, Manager -Value Management, Schlumberger Limited (SLB), Coimbatore**. His lecture was on the topic “AI for Mechanical Minds: From Mind Voice to Machine Voice”. His lecture covered the following aspects:

The expert emphasized how this integration can revolutionize mechanical system design, allowing intuitive control, improved automation, and enhanced interaction between humans and machines. Applications discussed included prosthetics, robotic control, and adaptive manufacturing systems that respond dynamically to user commands or mental inputs. Challenges such as signal accuracy, processing speed, ethical concerns, and interdisciplinary knowledge gaps were acknowledged. The expert called for close collaboration between academia and industry to develop practical AI tools, train skilled professionals, and carry out research that accelerates innovation in this emerging field.



### Proposed Outcomes:

- Faculty training programs to build expertise in AI applications.
- Arranging industrial visits or virtual demonstrations to the company.
- Guest lectures by industry experts sharing practical insights on AI.

### Faculty-Industrial Experts Interaction (11/10/2025)

During the Industry-Academia Conclave, the faculty members engaged in productive discussions with various industrial experts, focusing on avenues for collaboration aimed at enhancing academic and practical exposure for students, as well as fostering research and consultancy opportunities for faculty.

Key areas of discussion included:

- Industrial Visits
- Internship Opportunities
- Joint Student Projects
- Faculty Research and Consultancy

The conclave served as a valuable platform to strengthen industry-academia ties and laid the foundation for mutually beneficial partnerships aimed at enhancing the academic ecosystem and addressing industry needs through collaborative initiatives.

