PIE Tech
POLLACHI INSTITUTE OF ENGINEERING AND TECHNOLOGY
(Approved by AICTE and Affiliated to Anna University)
sky is the limit
107/1B, Dharapuram Main Road, Poosaripatti, Pollachi, Coimbatore - 642 205.
INSTITUTION'S INNOVATION COUNCIL
(Ministry of HRD Initiative)



Impressions

e-NEWS LETTER

Issue – Sept 26 – Edition 72

From the Editor's Desk

"Impressions" aims to bring out the activities & happenings in our Institution. We are elated to present the Seventy second edition of **"PIE Tech – Impressions"** for the month of September-2026.

1. PIE Tech hosts 100 hours Data Analytics Training Under Atos Prayas CSR Initiative:

Pollachi Institute of Engineering and Technology (PIE Tech) marked a significant milestone with the launch of the **Centre of Excellence for Youth Empowerment**, inaugurated on **11 September 2026 at 10:00 a.m.**, in association with **Atos** and **ICT Academy**.

The launch coincided with an intensive **100 hours Data Analytics Training Programme**, conducted under the **Atos Prayas Phase 5 MoU 2 – Youth Empowerment Programme**, a Corporate Social Responsibility (CSR) initiative aimed at equipping students with industry relevant technical skills. A total of **60 students participated** in the programme, gaining hands-on exposure to both soft skills and technical competencies.









The programme was structured in two phases. The initial sessions, held from **31st August to 3rd September, 2026**, focused on **Soft Skills**, enabling students to strengthen their communication, confidence, and workplace readiness skills. This was followed by an intensive **Technical Phase**, conducted from **7th September to 24th September , 2026**, with a dedicated focus on **Data Analytics** and the practical skills increasingly required across industries.

The newly launched **Centre of Excellence** is envisioned as a continuing hub for skill building initiatives at PIE Tech, further strengthening the institution's commitment to bridging the gap between classroom learning and industry expectations. The initiative reflects the long term collaboration between **PIE Tech, Atos, and ICT Academy**, with a shared objective of empowering students through sustained opportunities for learning, skill development, and industry exposure.

2. Webinar on "Reinforced Concrete Engineering: From Structural Design to Site Execution":

Civil Engineering Department conducted a webinar on **"Reinforced Concrete Engineering: From Structural Design to Site Execution"** on **2nd September 2026**. The Chief Guest and resource person for the programme was **Dr. R. Sakthivel, Assistant Professor, Department of Civil Engineering, Sri Krishna College of Engineering and Technology, Coimbatore**. The webinar provided valuable insights into the practical aspects of reinforced concrete engineering, covering structural design principles and their application in site execution.



3. ECE and EEE Departments Conducted a Workshop on Green Hydrogen Technology:

The Departments of Electronics and Communication Engineering and Electrical and Electronics Engineering jointly organized a one day workshop titled “Green Hydrogen Technology: Electrolysis, Storage and PEM Fuel Cell Applications” on 18 August 2026. A total of 50 students from various colleges participated in the workshop.





4. Exploring Space and Science: S&H Department Visits PSG iTech Science Museum:

The Department of Science and Humanities organized a one-day visit to the PSG iTech Science Museum, Neelambur, Coimbatore, on 29th September,, 2026. A total of 187 students, accompanied by 6 faculty members, participated in the program. The visit provided valuable insights into space exploration and the fascinating world of science, leaving a lasting impression on the young minds.

5. Code Hub: Elevating C Programming Skills:

The Department of Computer Science and Engineering organized the event "Code Hub" on "C Programming" on 9th September,26. More than 40 students participated, which helped them improve their coding skills.



6. Road Safety Awareness Program:

Department of Mechanical Engineering conducted an awareness program on **"Road Safety" 30th September,26**. Mr.N.Ranganathan, Team Head , Bajaj Chetak C25, Pollachi was the resource person.



Faculty Publications, Faculty Development Programmes and Seminars:

1.**Mr. M. Jawahar**, Assistant Professor, Department of Civil Engineering, attended a five day online Industry Oriented Faculty Development Programme on "Advanced Construction Technologies" conducted by Swarnandhra College of Engineering and Technology, Narsapur, from 31 August 2026 to 4 September 2026.

2. **Ms. K. Devadharshini**, Assistant Professor, Department of Electronics and Communication Engineering, presented a paper titled "MDR Trace: An Evidence Driven Framework for Digital Contact Tracing and Adaptive Screening of Multidrug Resistant Pathogens in Hospitals" at the National Level Conference on Emerging Trends in Computer Science and Commerce held on 09 September 2026.

3**. Ms. K. Devadharshini,** Assistant Professor, Department of Electronics and Communication Engineering, published a paper titled "A Machine Learning Framework Based on Convolutional Neural Networks for Fruit Disease Detection and Forecasting" .This was published in Scopus indexed publication, with ISBN 978 989 758 824 2.

4. **Ms. Subasini R**, Assistant Professor, Department of Mathematics, participated in the Three Day National Hands on Workshop (Online) on "Leveraging AI Tools in Mathematics: Advancing Research and Academic Practice", organized by the Department of Mathematics and Venkat's Time, Ch. S. D. St. Theresa's College for Women (A), Eluru, affiliated with Adikavi Nannaya University, Rajamahendravaram. The workshop was held from 27 September 2026 to 29 September 2026.


Three-Day National Hands-on Workshop (Online)
ON
LEVERAGING AI TOOLS IN MATHEMATICS
(Advancing Research & Academic Practice)
Organized By
Department of Mathematics & VENKAT's TIME
CH.S.D.ST.THERESAS'S COLLGE FOR WOMEN (A), ELURU
Affiliated to Adikavi Nannya University, Rajamahendravaram
Established in 1953 | College of Excellence | Autonomous Since 1987 ISO 9001:2015 Certified
Accredited by NAAC with A+ Grade 3.34/4 CGPA (V Cycle).
CERTIFICATEOF PARTICIPATION
This certificate is proudly presented to Subasini R, Assistant Professor of Mathematics, Pollachi Institute of Engineering and Technology, Pollachi, in recognition of his/her outstanding support and dedication during the Three Day National Hands-on Workshop (Online) on "Leveraging AI Tools In Mathematics" (Advancing research & Academic Practice) held from 27-09-2026 to 29-09-2026.
VENKAT'S TIME
Director
Mr. Gopinath Veeram
Convenor
224
(Dr.Sr.Sarila Rani P.)
PRINCIPAL(FAC)
CH.S.D.ST. THERESA'S COLLEGE FOR WOMEN
ELURU-534003, ELURU DIST., A.P.

5. **Mr.T.Sureshkumar,** Assistant Professor, AI&DS presented a paper titled **"MDR-Trace"** in the National Conference on Emerging Trends in Computer science and Commerce on 9th September at Maharani Arts and Science College, Dharapuram.



MAHARANI ARTS & SCIENCE COLLEGE

in Association with

SRI AANDAL EDUCATION TRUST

&

KRF RESEARCH HUB PRIVATE LIMITED

CERTIFICATE

This is to certify that Dr./Mr./Mrs./Ms. T.Sureshkumar from Pollachi College of Arts and Science has presented/participated a paper entitled on MDR-TRACE: AN EVIDENCE-DRIVEN FRAMEWORK FOR DIGITAL CONTACT TRACING AND ADAPTIVE SCREENING OF MULTIDRUG-RESISTANT PATHOGENS IN HOSPITALS in the National level Conference on Emerging Trends in Computer Science and Commerce (NCETCSC -2026) held on 09th September 2026 at Maharani Arts & Science College, Dharapuram. The paper was worth appreciating for its efforts in generating, analyzing and presenting research content.

Mrs. S. Sofia Parveen
Convenor

Mrs. P. R. Muthulakshmi
Convenor

Dr. S. Tamilselvi
Principal



National Level Conference on Emerging Trends in Computer Science and Commerce NCETCSC-2026

studies, international institutional reports and documented technology initiatives. The analysis develops a conceptual framework linking blockchain characteristics—shared visibility, traceability, data integrity and programmability—to SCF outcomes such as faster financing decisions, lower information asymmetry, improved credit assessment and broader access for smaller suppliers. The study also identifies barriers including interoperability, privacy, governance, legal recognition, implementation cost and uneven digital capability. The findings suggest that blockchain should be treated not as a stand-alone replacement for banks, but as a digital infrastructure that can improve the quality and availability of transaction evidence used by financiers. The paper proposes a practical adoption pathway and research propositions for future empirical testing.

NCETCSC-2026-1080

THE INFLUENCE OF ARTIFICIAL INTELLIGENCE ON CONSUMER BUYING BEHAVIOUR TOWARDS GOLD JEWELLERY IN THE DIGITAL ERA

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Dr. S. VANI, M.B.A., M.A., M.Com., M.Phil., SET., Ph.D, D.I.S.M. Assistant Professor and Research Supervisor, PG Research Department of Commerce, Voorhees College, Vellore, Affiliated to Thiruvalluvar University, Serkkadu, Vellore, Tamil Nadu. vanistathi123@gmail.com.

Abstract

Artificial Intelligence (AI) is rapidly transforming consumer purchasing behaviour in digital marketplaces, particularly within the gold jewellery industry, through technologies such as personalized recommendation systems, virtual try-on features, AI-powered chatbots, predictive analytics, and targeted digital advertising that reshape how consumers search for, evaluate, and purchase gold jewellery online. This study investigates the impact of AI on consumer buying behaviour in the digital gold jewellery market and identifies the key factors influencing purchase decisions on AI-enabled platforms, while also examining consumer perceptions, preferences, and adoption of AI-driven tools throughout the jewellery buying journey. Employing a descriptive research design, data were collected from 50 respondents and analysed using ANOVA and Chi-Square tests; although limited by reliance on self-reported data and the evolving nature of AI technologies, the findings indicate that consumers increasingly depend on AI-powered

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ISBN: 978-81-983678-0-8

6. **T. Karthick Kumar**, AP/Mech, attended a six-day offline ATAL Faculty Development Program on "EMERGING PARADIGMS OF INDUSTRY 6.0 FOR NEXT GENERATION ENGINEERING EDUCATION" at Ranganathar Institute of Engineering & Technology, Coimbatore, from September 21, 2026, to September 26, 2026.

7. **T. Karthick Kumar,** Assistant Professor, Department of Mechanical Engineering, published a book chapter titled “Thermal Energy Systems” in Scientific International Publishing House (Vol. 3, No. 2, 2026).

Students’ Participation:

1. **Third Year Civil Engineering students Karthik Krishna S and Mohammed Ansar S** participated in the symposium **“SYNOVA 1.0: Spark the Future”**, held at **Sri G.V.G. Visalakshi College for Women, Udumalpet**, on **25 September 2026**. They participated in the **“AI Prompt Engineering”** event and secured **Third Prize**.



2. **Mr. S. Theenathayalan, II ECE,** secured **Second Prize** in the **Circuit Debugging** event at a technical symposium held at **P.A. College of Engineering and Technology**.

3. **Jeyarani S., Pavitha S., and Dakshada B**. from second-year Computer Science and Engineering participated and received certificates in **Bug Buster, AI CREATE-A-THON**, and Future Force events at **AIVORA-2K26**, a National Level Technical Symposium held on September 26, 2026, at P.A. College of Engineering and Technology.

4. **Gokila N. and Srimathi S**. of second-year Computer Science and Engineering participated and received certificates in the 24th State-Level Inter-Collegiate Speech Competition organized by PSG College of Technology and Industrial Training on September 29, 2026.

5. **Sriram Venkat G. and S. Ajaykumar** of third-year Computer Science and Engineering participated and received certificates in **TARANG '26**, a National Level Inter-Collegiate Fest organized by Sree Saraswathi Thyagaraja College on September 19, 2026.

6. **Kiruba** of second-year Information Technology Engineering participated and won second prize in the 24th State-Level Inter-Collegiate Speech Competition, organized by PSG College of Technology and Industrial Training on September 29, 2026.

7. Our third-year Mechanical Engineering students **S. Sowmiya, K. Elakiya, K. Induja, and A. Ravikumar** participated in a two-day National Level Conference on **"3D Printing for Enhanced Thermal Management in Cyclotron Technology for Nuclear Medicine Applications,"** held from September 29, 2026, to September 30, 2026, at Hindusthan College of Engineering and Technology.



Training & Placement cell:

1. **Successful On-Campus Drive by Motherson Automotive Technologies & Engineering:**

   Our students marked another milestone in career readiness during the on-campus placement drive hosted by Motherson Automotive Technologies & Engineering (MATE), Chennai, on September 11, 2026. A total of 26 graduating engineers landed job offers with a package of ₹3.2 LPA. The recruitment spanned key engineering disciplines, with 17 offers in ECE, 5 in Mechanical Engineering, and 4 in EEE. Hearty congratulations to our young engineers on this fantastic milestone.

2. Mr. Mohanram S, Dean and Placement Officer of Pollachi Institute of Engineering and Technology, represented the institution at the "Pride of Coimbatore 2.0" HR Conclave and TTS Awards 2026. Organized by Triothought Tech Solutions Private Limited, the event was held on September 19, 2026, at O by Tamara, Coimbatore. The conclave served as a vibrant platform connecting academic placement leaders with prominent HR professionals to foster collaborative industry-academia partnerships.





Faculty Corner:

Edge AI and IoT: The Future of Intelligent Connected Systems

Bringing Intelligence Closer to the Data

Electronics and Communication Engineering (ECE) is at the heart of today's connected and intelligent world. The rapid development of **sensors, embedded processors, wireless communication, and Artificial Intelligence (AI)** has enabled devices to sense, communicate, analyze data, and make decisions.

Internet of Things (IoT) connects physical devices through communication networks, while **Edge AI** brings AI-based processing closer to where data is generated. Instead of sending all sensor data to a remote cloud server, edge devices such as microcontrollers, gateways, and embedded AI accelerators can process data locally. This enables **faster response, reduced bandwidth usage, improved privacy, and greater reliability**.

How Edge AI-IoT Works

A typical Edge AI-IoT system consists of five key layers:

Sensing → Edge Processing → Communication → Cloud → Application

Sensors collect parameters such as temperature, humidity, vibration, images, pressure, and biosignals. Edge devices then filter the data, extract useful features, and perform AI inference. Technologies such as **Wi-Fi, Bluetooth Low Energy, Zigbee, LoRaWAN, and 5G** provide connectivity, while cloud platforms support storage, model training, visualization, and centralized management.

The Role of ECE

ECE professionals contribute across the entire Edge AI ecosystem through:

- **Sensor interfacing and signal conditioning**
- **Embedded systems and PCB design**
- **Wireless communication and antenna design**
- **Signal processing and feature extraction**
- **FPGA, DSP, GPU, and AI hardware acceleration**
- **Low-power and energy-efficient system design**

Signal processing plays a crucial role in converting noisy raw sensor data into meaningful information before AI inference.

Applications Across Industries

Edge AI and IoT are transforming several sectors:

Smart Agriculture: Soil and environmental monitoring, intelligent irrigation, and crop disease detection.

Healthcare: Wearable devices for local analysis of physiological signals and real-time health alerts.

Industrial Automation: Machine-level vibration and current analysis for fault detection and predictive maintenance.

Smart Cities: Traffic monitoring, environmental sensing, surveillance, and intelligent infrastructure.

Energy & Transportation: Smart energy management, equipment monitoring, and connected mobility.

Key Advantages

Low Latency: Real-time decisions can be made close to the data source.

Reduced Bandwidth: Only relevant or processed information needs to be transmitted to the cloud.

Improved Privacy: Sensitive raw data can remain on the local device.

Greater Reliability: Critical functions can continue even when cloud connectivity is unavailable.

Challenges to Overcome

Edge devices have limited **processing power, memory, storage, and energy**, requiring AI models to be optimized for resource-constrained hardware. Other challenges include **cybersecurity, wireless reliability, model updates, hardware cost, thermal management, and interoperability**.

What Lies Ahead?

The future of Edge AI-IoT will be shaped by **5G/6G, TinyML, federated learning, intelligent sensors, and dedicated AI accelerators**. TinyML enables machine learning on ultra-low-power microcontrollers, while federated learning allows devices to collaboratively improve models while keeping much of the data local.

Conclusion

Edge AI + IoT = Connected Devices with Local Intelligence

By bringing intelligence closer to the point of data generation, Edge AI enables **faster, smarter, more private, and energy-efficient systems**. For ECE professionals and students, it opens exciting opportunities in **embedded intelligence, smart sensing, wireless communication, signal processing, and next-generation connected technologies**.

Prepared By,

Ms. B. Menakadevi,

Assistant Professor,

Department of ECE

WebAssembly (Wasm) Beyond the Browser

WebAssembly launched in 2017 as a way to run C/C++ in browsers at near-native speed. By 2026, that's no longer the interesting part - Wasm outside the browser is now production infrastructure, not an experiment. The key enabler is WASI (the WebAssembly System Interface), often described as "POSIX for WebAssembly." It standardizes how Wasm modules access files, networking, clocks, and randomness, turning them from sandboxed pure functions into real, portable programs. The Component Model builds on this, letting modules written in different languages (Rust, Go, Python, C++) compose into a single application.

In production today, Wasm powers serverless functions (Cloudflare Workers, Fastly Compute, Fermyon Spin), plugin systems (Envoy, databases, terminal apps), and edge/IoT workloads - favored for sub-5ms cold starts, 80-95% of native execution speed, and strong capability-based sandboxing with no "container escape" risk. Docker's own co-founder, Solomon Hykes, remarked that WASM plus WASI arriving in 2008 would have made Docker unnecessary - a sense of how directly Wasm now competes with containers for certain workloads.

Rust has the smoothest path to Wasm today (via cargo-component), making it a good entry point for a project comparing container vs. Wasm cold-start times or building a lightweight plugin system.

Prepared By,
Mrs. J. Boopala,
Assistant Professor,
Department of AI&DS



FinOps – Cloud Cost Management and Business Value Optimization

FinOps (Financial Operations) is a collaborative framework and organizational culture that helps organizations maximize the business value of cloud computing. It combines financial management principles with cloud engineering and operations, enabling Finance, Technology, Engineering, and Business teams to work together and make data-driven decisions about cloud usage and expenditure. FinOps provides organizations with better visibility into cloud spending and helps them understand how cloud resources contribute to business objectives.

FinOps focuses on continuously monitoring, analyzing, and optimizing cloud expenditure without compromising performance, reliability, scalability, or security. It involves practices such as tracking cloud usage, allocating costs to teams or projects, identifying unnecessary resource consumption, managing budgets, forecasting future expenses, and establishing appropriate governance policies. Cloud cost-management tools such as Microsoft Cost Management can support organizations in analyzing spending patterns and identifying opportunities for optimization.

The term **FinOps** combines **Finance and DevOps**, but it represents more than traditional cloud cost management. Its primary goal is not simply to reduce costs, but to maximize business value from cloud investments. By creating a culture of financial accountability and collaboration, FinOps enables technical and business teams to understand the financial impact of their decisions and maintain a balance between cost, performance, reliability, security, and business outcomes. Thus, FinOps helps organizations achieve efficient and responsible cloud usage while supporting long-term business growth.

Prepared by
Shanthi. T,
Assistant Professor,
Department of Computer Science and Engineering



AI vs AI Cybersecurity

AI vs AI Cybersecurity is an emerging approach where artificial intelligence is used by both cyber attackers and defenders. Attackers use AI to automate reconnaissance and identify system vulnerabilities. AI can help generate sophisticated phishing messages and social engineering attacks. It can also assist in developing or modifying malicious software to evade detection. On the defensive side, AI continuously monitors networks, devices, and user activities.

Machine learning algorithms can identify unusual patterns and suspicious behavior. AI can analyze large volumes of security logs much faster than traditional methods. It can detect malware, phishing attempts, unauthorized access, and other threats. AI-powered systems can also prioritize security alerts based on their potential impact. Autonomous AI agents can support rapid incident investigation and response. When attackers change their techniques, defensive AI can adapt its detection strategies.

This creates a continuous cycle of attack, detection, analysis, adaptation, and defense. The interaction between attacker AI and defender AI is sometimes described as an AI-driven cybersecurity arms race. The major challenge is ensuring that defensive AI remains reliable, secure, and under appropriate human oversight. Overall, AI vs AI cybersecurity represents a shift toward more adaptive and automated cyber defense.

Prepared By,
K. Jayanthi,
Assistant Professor,
Department of Information Technology



Anti-inflammatory Medicinal Plants: Traditional Uses, Phytochemicals And Pharmacological Perspectives

Traditional knowledge supported by modern phytochemical and pharmacological research

Inflammation is a protective biological response to infection, tissue injury and other harmful stimuli; however, persistent or excessive inflammation contributes to disorders such as arthritis, asthma, gastrointestinal diseases, cardiovascular conditions and several chronic inflammatory diseases. Medicinal plants have been used for centuries in Ayurveda, Siddha, Traditional Chinese Medicine and indigenous healthcare systems to manage pain, swelling, fever, respiratory ailments and other inflammatory conditions. Important anti-inflammatory medicinal plants include *Curcuma longa* (turmeric), *Zingiber officinale* (ginger), *Boswellia serrata* (Indian frankincense), *Azadirachta indica* (neem), *Withaniasomnifera* (ashwagandha), *Nigella sativa* (black cumin), *Ocimum* species and *Plectranthusamboinicus* (Indian borage). Their traditional applications have stimulated extensive scientific investigations aimed at identifying bioactive compounds and understanding their mechanisms of action.

The anti-inflammatory potential of these plants is closely associated with diverse phytochemicals, including flavonoids, phenolic acids, terpenoids, alkaloids, tannins, saponins and essential-oil constituents. Curcuminoids from turmeric, gingerols and shogaols from ginger, boswellic acids from *Boswellia*, limonoids and phenolics from neem, and carvacrol, thymol, rosmarinic acid and flavonoids reported in Indian borage are examples of compounds receiving pharmacological attention. Experimental studies indicate that plant-derived constituents may modulate important inflammatory targets and pathways, including cyclooxygenase (COX), lipoxygenase (LOX), inducible nitric oxide synthase (iNOS), NF-κB and MAPK signalling, while reducing pro-inflammatory mediators such as TNF-α, IL-1β and IL-6 and oxidative stress. Phytochemical analysis using preliminary screening, TLC/HPTLC, GC-MS, HPLC/LC-MS, FT-IR, NMR and mass spectrometry can help establish chemical profiles and identify potential marker compounds. Thus, integrating traditional knowledge with systematic phytochemical characterization and validated pharmacological assays provides a promising pathway for discovering and standardizing plant-derived anti-inflammatory agents; nevertheless, laboratory findings should not be considered equivalent to proven clinical efficacy, and appropriate safety, standardization and clinical evaluation remain essential.

Prepared By,
Dr. K .Poonkodi
Professor / Department of S&H
Pollachi Institute of Eng & Technology



"Titanium Composites: From Advanced Research to Everyday Applications"

Titanium composites, particularly Titanium Matrix Composites (TMCs), are advanced engineering materials in which titanium or titanium alloys are reinforced with ceramic, metallic, or carbon-based materials such as TiC, TiB, SiC, B_4C, WC, graphene and carbon nanotubes. The objective is to overcome the limitations of conventional titanium alloys and obtain higher strength, stiffness, wear resistance, thermal stability and durability while retaining titanium's low density and corrosion resistance. Recent research is increasingly focused on advanced processing methods such as spark plasma sintering, powder metallurgy and additive manufacturing, together with improved reinforcement-interface engineering.

Although titanium composites are often associated with aerospace and defence, their benefits are gradually reaching applications that influence day-to-day life. In the automobile sector, lightweight and wear-resistant titanium composites have potential for components such as connecting rods, suspension components, brake-related parts and other high-performance components. Reducing component weight can contribute to improved fuel efficiency and vehicle performance. Recent research also considers titanium composites for electric and advanced vehicles where lightweight, durable materials are increasingly important.

In biomedical applications, titanium-based materials are already important because of their excellent corrosion resistance and biocompatibility. Advanced titanium composites can be developed for orthopaedic implants, dental implants and fixation devices, where high strength, wear resistance and compatibility with the human body are essential. Research is now exploring reinforcement and surface-engineering strategies to improve long-term implant performance.

The aerospace industry remains one of the most promising application areas. Titanium composites provide high specific strength and stiffness with reduced weight, making them attractive for high-temperature and load-bearing components. New research is also combining titanium composites with additive manufacturing, digital modelling and machine-learning-assisted materials design, which may enable complex, lightweight components with customized properties.

A particularly interesting development is the use of WC-reinforced titanium composites. Tungsten carbide can significantly improve hardness and wear resistance, making Ti-WC systems attractive for components exposed to friction and repeated mechanical loading. Such materials have potential in advanced tooling, wear-resistant components and high-performance engineering systems. Similarly, SiC, TiC and TiB reinforcements are being investigated for high-temperature and wear-resistant applications.

The next generation of titanium composites is moving beyond simply achieving higher strength. Current research emphasizes a balanced combination of strength, toughness, fatigue life, wear resistance, corrosion resistance and sustainability. A 2026 review highlights the integration of interface engineering, hierarchical reinforcement architectures, advanced characterization, digital twins and machine-learning-based prediction as important directions for moving titanium composites from laboratory research toward reliable industrial applications.

In conclusion, titanium composites represent an important pathway toward lighter, stronger and more durable products. Their future applications can extend from automobiles and medical implants to aerospace systems, energy equipment, consumer products and advanced manufacturing. As manufacturing costs decrease and technologies such as additive manufacturing and advanced powder processing mature, titanium composites have strong potential to become an increasingly important part of modern engineering and everyday life.

Prepared By,

Mr. Muthuswami

Assistant Professor,

Department of Mechanical Engineering



Students' Contribution:

How Electronics is Changing Our Life

1. INTRODUCTION

Electronics is the heart of modern technology. It has revolutionized the way we live, work, learn, communicate and entertain ourselves. From tiny gadgets to advanced machines, electronics has made our life easier, faster, safer and more comfortable.

2. BETTER COMMUNICATION

Electronics has brought the world closer. With smartphones, internet and social media, we can connect with anyone, anywhere in the world within seconds.

• Real-World Example: Video calls with family, instant messaging, social media platforms.

• Technology Involved: Smartphones, 4G/5G, Wi-Fi, Satellites.

3. IMPROVED HEALTHCARE

Electronics plays a vital role in modern healthcare. It helps in accurate diagnosis, treatment and patient monitoring.

• Real-World Example: ECG machines, MRI scanners, heart monitors, smartwatches that track health.

• Technology Involved: Medical sensors, IoT devices, AI, Imaging technology.

4. SMART HOMES & DAILY LIFE

Electronics has made our homes smarter and our daily tasks easier. Many appliances and devices now work automatically with the help of technology.

• Real-World Example: Smart lights, automatic washing machines, voice assistants like Alexa or Google Home.

• Technology Involved: IoT, Sensors, Automation, Embedded Systems.

5. EDUCATION & LEARNING

Electronics has transformed the way we learn and access information. Online classes, digital books and educational apps make learning interactive and accessible.

• Real-World Example: Online lectures, virtual labs, tablets and e-books.

•Technology Involved: Computers, Internet, Projectors, Learning Management Systems.

6. SMART TRANSPORTATION

Electronics has made transport systems safer, faster and more efficient.

• Real-World Example: GPS navigation, traffic control systems, electric vehicles.

• Technology Involved: GPS, Sensors, IoT, AI, Battery Technology.

CONCLUSION

Electronics is not just about gadgets or machines; it is about improving our lives. It saves time, increases efficiency, brings comfort and opens new opportunities. As technology continues to grow, electronics will play an even bigger role in building a smarter, better and brighter future for all.

Prepared By,

Kathiravan, III ECE



Generative AI: Shaping a Future

Artificial Intelligence has become an integral part of our modern world, and one of its most exciting developments is Generative Artificial Intelligence (Generative AI). Unlike traditional AI systems that primarily analyze existing data, Generative AI has the ability to create new and original content, including text, images, music, videos, and computer code.

Generative AI works by learning patterns from vast amounts of data and using those patterns to generate meaningful and creative outputs. Popular applications of Generative AI are transforming various fields, including education, healthcare, business, entertainment, and technology.

For students, Generative AI offers numerous opportunities to enhance learning, improve creativity, and develop innovative solutions. However, it is important to use this technology responsibly and ethically. Human intelligence, creativity, and critical thinking will continue to play an essential role alongside AI.

As technology continues to evolve, Generative AI is expected to become an important part of our future. Instead of fearing this technological advancement, we should learn how to understand, adapt to, and use it effectively.

“Generative AI is not just creating content; it is creating new possibilities for the future.”

Prepared By,

Abishek SK, III Year,B.Tech AI&DS



Federated Learning

Federated Learning is a machine learning technique that helps protect user data privacy. It allows multiple devices or organizations to train a shared machine learning model without directly sharing their personal data. The actual data remains stored on the user's device or local server. Only the model updates are sent to a central server, where they are combined to improve the global model. This reduces the need to transfer sensitive information to a central location. Federated Learning is useful for handling large amounts of distributed data. It can be used in smartphones, healthcare, banking, and IoT applications. In healthcare, hospitals can collaborate without sharing patients' private records. It also helps organizations maintain data ownership and security. However, Federated Learning requires reliable communication between devices and the central server. Security attacks and unreliable devices can affect the learning process. Overall, Federated Learning is an important technology for privacy-preserving machine learning.

Prepared By,

G. Muthu Sudharshini,

IV Year, B.Tech AI&DS



FROM ONE RUPEE TO A MILLION HEARTS

The Inspiring Story of Kamalathal – Coimbatore's Famous "One-Rupe IDLI AMMA" the Woman Behind the One-Rupee Idli



Add a liIn a world where the price of food continues to rise, one woman from Coimbatore has become an inspiring example of simplicity, compassion and determination. M. Kamalathal, popularly known as "Idli Amma" or "Idli Paati", has been selling hot, freshly prepared idlis for just one rupee each for several decades.
She lives in Vadivelampalayam near Coimbatore and has become widely known for serving affordable food to daily-wage workers, students and other people who depend on low-cost meals. Her story is not simply about idli. It is a story about a woman who turned a small food business into a meaningful service to society.
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M.KAMALATHAL

Her Business & Social Service

Kamalathal's idli business is more than a way of earning money; it is closely connected with her desire to help people in her community. Her main customers include daily-wage workers, farmers and students who may find regular food prices difficult to afford. By keeping an idli at just ₹1, she makes a simple and filling breakfast accessible to many people. Although the low price leaves only a small margin, she has continued her service for years rather than focusing only on profit. Her journey shows how a small business, when built with compassion and purpose, can become a form of social service and make a lasting difference in the lives of ordinary peoplet

MORAL :

"SHE SERVED MORE THAN IDLIS—
SHE SERVED KINDNESS WITH EVERY PLATE.
HER ONE-RUPEE IDLI FED MANY HEARTS,
AND HER SIMPLE LIFE INSPIRED MANY SOULS."

❤️

"Coimbatore's One-Rupee Idli Amma"



SABARI SRI DEVI A
2ND (CSE)



PRESENTED BY
SANJAY.P
FINAL YEAR CSE


பசி போராட்டம்.....
ஒரு வேளை உணவுக்கு
அல்லாடும் வயிற்றின்
போராட்டம்
கரை வந்து மோதி சிதறும்
அலைகள் போல இந்த
போராட்டத்தின் முடிவு
தெருவில் கிடக்கும் உணவை
உண்ணும் பரிதாப நிலை.....
_இதழ்.
IT

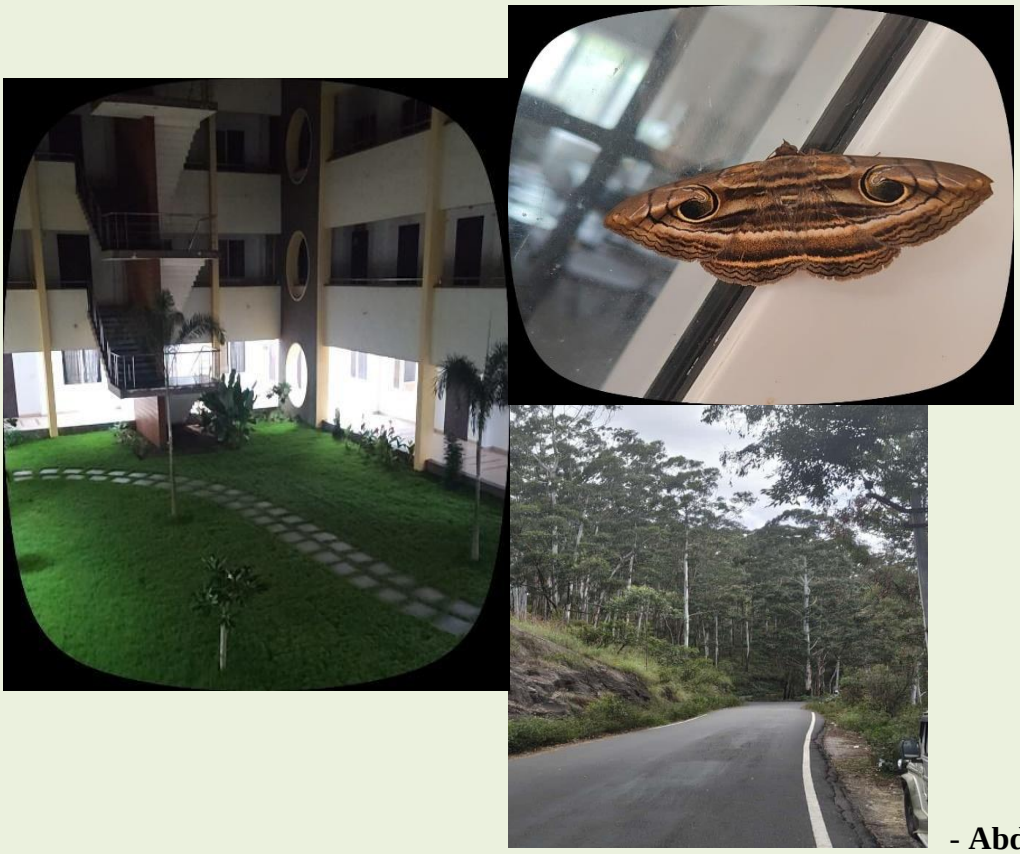
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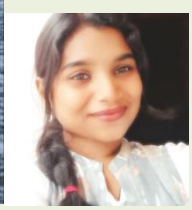

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Sketch Corner:

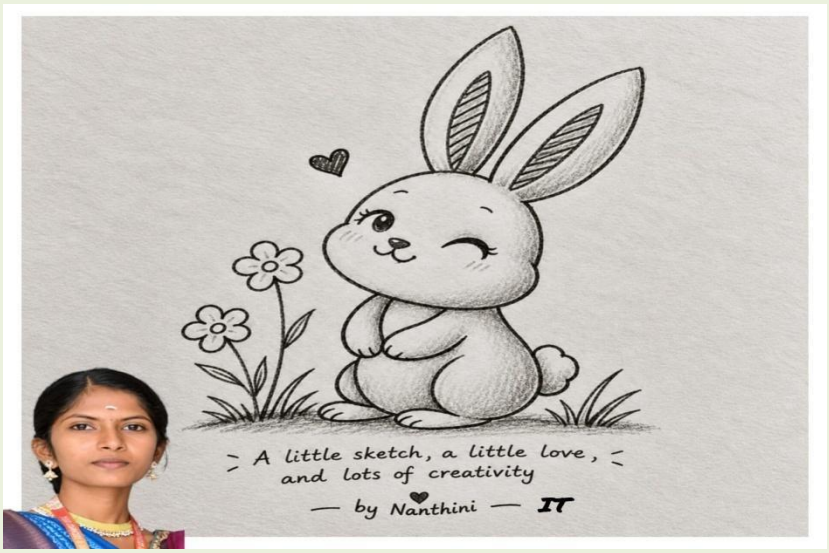



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