



TECH HERTZ'22

NEWS LETTER

MAR 2022 - MAY 2022



**DEPARTMENT OF
Electronics and Communication
Engineering**

ABOUT



**J.N.N INSTITUTE OF
ENGINEERING**
AUTONOMOUS

NAAC 'A' Grade | Approved by AICTE | Affiliated to Anna University

- J.N.N Institute of Engineering has been at the forefront of imparting high-quality technical education in the state of Tamil Nadu. With state-of-the-art infrastructure in all branches of engineering, dedicated and qualified staff, a highly conducive environment for the teaching-learning process, and a lush green campus, J.N.N stands out as a professionally managed institution. The institute has consistently produced outstanding engineers who have excelled in their careers, occupying responsible positions in some of the best-known enterprises in India.
- Promoted by the Alamelu Ammaal Educational Trust, formed in memory of the Chairman's mother, J.N.N Institute of Engineering is located just 25 km away from the city of Chennai. It has well-connected routes frequented by city buses, making it accessible for students, staff members, the community, and visitors who enjoy the aesthetic view of the college with its green color shades.
- The institution provides university-level education through a wider and dynamic network, catering to the demands of both university-level education and the economic development of the region, with wider opportunities. The location and range of academic offerings at both UG and PG levels have lifted the intake capacity regionally and nationally. The infrastructural development also portrays enrollment growth.

- J.N.N strives to impart high patterns of discipline with futuristic techniques through dedicated staff members. It is a place for making students technologically superior and ethically strong. The environmentally friendly place of opportunities enhance skills and personal development. J.N.N has also signed Memorandums of Understanding with top-level industries and training providers to develop new skills and abilities.



VISION

- Cultivating innovative and entrepreneurial Electronics and Communication Engineering graduates to ethically address global challenges through quality teaching and learning practices.

MISSION

- To facilitate a state-of-the-art teaching-learning process, imparting comprehensive knowledge in electronics and communication engineering and related interdisciplinary areas.
- To foster a sense of curiosity, critical thinking and ethical practices in students, preparing them for a continuous learning.
- To instill innovative team work and industry collaboration for enhancing entrepreneurial skills, employability and research capabilities in graduates.

PROGRAMME OUTCOMES

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as,

being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAMME EDUCATIONAL OBJECTIVES (PEO'S)

PEO 1: Our graduates will have skills to become successful in academics, industries, or as entrepreneurs.

PEO2: Our graduates with a research inclination will be solving various complex social issues using advanced tools and technologies.

PEO3: Our graduates will practice engineering with ethics, human values, and environmental consciousness.

PROGRAMME SPECIFIC OBJECTIVES (PSO)

PSO1: Analyse and develop solutions in domains like IOT, Embedded, VLSI and other emerging technologies.

PSO2: Understand and architect wired and wireless analog and digital communication systems and products.

LEADERSHIPS

CHAIRMAN



Shri. S. Jayachandran B.Sc., B.L

Founder & Chairman,

J.N.N Group of Institution,

We are committed in opening up high quality tertiary education to students and to provide opportunity to acquire, understand and apply disciplinary and inter-disciplinary knowledge as well as related skills and attitudes, to think rationally and to enhance their personal development. Situated in the capital city of Tamil Nadu, our college bridges the education and values in its relationship with business, government, research organizations and universities. I would like to reaffirm my sincere personal commitment to help each of you to succeed your academic endeavors. I would like to reaffirm our sincere personal commitment to help each to succeed in your academic endeavors. I heartily welcome our students and wish them the very best for a successful and glorious future.

VICE CHAIRMAN



Mr. Naveen Jayachandran

Vice-Chairman,

J.N.N Group of Institutions.

Our motto, “Learning Today. Leading Tomorrow”, permeates every aspect and activity at J.N.N. Over the past 12 years, J.N.N Institute of Engineering has successfully imbibed several of the proven best practices from the best of engineering institutions around the world, adapted them to make them better suited to the ground realities and introduced many of its own innovations in engineering education. Together, these have ensured that an educational experience at J.N.N Institute of Engineering is truly transformational for thousands of aspiring young J.N N Institute of Engineering. has been very proactive in recognising the global and national trends in shifts in the technical landscape and has been pioneering

From The Desk of Principal



Dr. A.V. Mayakannan

Since its inception in the year of 2008, the college has been striving towards maintaining high academic standards and excellence in many fields. We are committed to provide our students with a

wide variety of opportunities in order to help them attain their highest potentials.

As the principal I am proud of my students who have achieved high standards in academics and various co-curriculum activities. Our objective is to turn the challenges of the changing world into wisdom of opportunity for the future.

We have a dedicated team of faculty, striving hard to provide the students with the latest knowledge and skill that would help them to stand out in this fiercely competitive world. Our campus is vibrant with energy, enthusiasm and activity. It will be our endeavor to make your experience very enriching and memorable.

HEAD OF THE DEPARTMENT

Dr. D. Joseph Jeyakumar



Dear Students, Faculty, and Readers, It is my pleasure to share updates and achievements from the Department of Electronics and Communication Engineering (ECE). Our department continues to uphold its commitment to academic excellence, innovative research, and fostering a vibrant learning environment. Thank you for your continuous support and enthusiasm together, we can achieve greater heights

**“INNOVATION IS THE ABILITY TO SEE THE
CHANGE AS AN OPPORTUNITY – NOT A
THREAT”**

-STEVE JOBS

LIST OF FACULTY

S.NO	NAME OF THE FACULTY	QUALIFICATON	DESIGNATION
1.	Dr. D. Joseph Jeyakumar	M.E, Ph.D	Professor
2.	Mr. U. Siddharth Nambi	M.E	Associate Professor
3.	Mrs. N. Revathy	M.E	Associate Professor
4.	Dr. R. Senthil Rama	M.E, Ph.D	Associate Professor
5.	Dr. N. Hemalatha	M.E, Ph.D	Associate Professor
6.	Mrs. R. Nithya	M.E	Assistant Professor
7.	Mr. M. Mariselvam	M.E	Assistant Professor
8.	Mr. R. Partheepan	M.E	Assistant Professor
9.	Mrs. N. Malathy	M.E	Assistant Professor
10.	Mr. S. Tamilvanan	M.TECH	Assistant Professor

S.NO	NAME OF THE FACULTY	QUALIFICATON	DESIGNATION
11.	Ms. B.Shanmathi	M.E	Assistant Professor
12.	Mrs. P.B.Simtha	M.E	Assistant Professor
13.	Mrs. R.Rajarajeswari	M.E	Assistant Professor
14.	Dr. J.Vijay Anand	M.TECH, Ph.D	Associate Professor
15.	Mr. K.T.Pannerselvam	M.E	Assistant Professor
16.	Mrs. T.Indhumathi	M.E	Assistant Professor

EVENTS

INDUSTRIAL VISIT



Industrial Visit to Infercon Automation Pvt. Ltd., Chennai

On May 25, 2022, the students of the Department of Electronics and Communication Engineering (ECE) embarked on an insightful industrial visit to Infercon Automation Pvt. Ltd., Chennai. The purpose of this visit was to enhance students' understanding of the practical applications of their academic learnings and to provide valuable exposure to the industry.

The visit was meticulously arranged by the college management with the aim of broadening students' perspectives on the latest advancements in automation and technology. During the visit, students had the opportunity to interact with industry professionals, learn about cutting-edge automation solutions, and explore the various systems and processes that are crucial in today's technological landscape.

This exposure was not only beneficial for gaining knowledge relevant to their current projects but also provided students with insights into internship opportunities, job requirements, and the skills that are in demand in the industry. It was an enriching experience, equipping students with a better understanding of the real-world applications of their studies and helping them make informed decisions regarding their future career paths.

The visit to Infercon Automation Pvt. Ltd. proved to be a valuable addition to the students' academic journey, offering them a glimpse into the future of automation and engineering. The department looks forward to organizing more such visits in the future to continue fostering practical learning and industry connections.

Artificial Intelligence and Machine Learning:



Artificial Intelligence and Machine Learning: Shaping the Future of Technology

Artificial Intelligence (AI) and Machine Learning (ML) are transforming industries and redefining the way we interact with technology. As pivotal components of the digital revolution, these technologies have expanded the boundaries of what machines can achieve, from automating routine tasks to making complex decisions in real time. This newsletter delves into the fundamentals, applications, and future prospects of AI and ML.

AI and ML in Action: Real-World Success Stories

Healthcare Breakthroughs: AI-powered diagnostic tools have reduced error rates and improved patient outcomes. For example, deep learning algorithms can identify signs of diabetic retinopathy in retinal images with remarkable accuracy.

Environmental Monitoring : Machine learning models are being used to analyze satellite imagery and monitor deforestation, helping conservation efforts worldwide.

Agricultural Advancements : Precision farming techniques leverage AI to optimize irrigation, fertilization, and pest control, boosting crop yields and reducing waste.

Enhanced Customer Experiences : Retailers are using AI-driven analytics to predict customer preferences and personalize marketing campaigns, resulting in higher engagement and sales.



What are AI and ML?

Artificial Intelligence (AI)

AI refers to the simulation of human intelligence in machines. It encompasses the ability of systems to perform tasks that traditionally require human cognition, such as reasoning, learning, problem-solving, and decision-making.



Machine Learning (ML)

ML is a subset of AI focused on creating algorithms that allow computers to learn from and adapt to data. By identifying patterns and making predictions, ML systems improve over time without explicit programming for every scenario.



Core Concepts in AI and ML

Supervised Learning: Algorithms are trained on labeled datasets, where the output is already known. Examples include spam email detection and image classification.

Unsupervised Learning: Algorithms analyze and categorize data without labeled outcomes.

Clustering and anomaly detection are common applications. **Reinforcement Learning:** Systems learn by interacting with their environment and receiving feedback in the form of rewards or penalties. This is used in robotics and game AI.



Applications of AI and ML

Healthcare

AI and ML are revolutionizing medical diagnostics, drug discovery, and personalized treatment plans. For instance, AI-powered tools can analyze medical images to detect diseases like cancer at an early stage.

Finance

From fraud detection to algorithmic trading, AI and ML are reshaping the financial industry. Predictive analytics helps banks assess credit risk and optimize investment strategies.

Retail and E-Commerce

Recommendation systems powered by ML provide personalized shopping experiences. AI-driven chatbots enhance customer service by offering instant assistance.

Empowering the Next Generation

As AI and ML continue to evolve, they offer unparalleled opportunities for innovation. Students and professionals alike are encouraged to deepen their understanding of these technologies, harnessing their potential to address global challenges and drive progress across sectors.



The Role of Education in Fostering AI Literacy

Educational institutions play a vital role in nurturing the next generation of AI and ML innovators. By integrating these technologies into curriculums, schools and universities can empower students to:

1. **Understand Core Concepts:** Build a solid foundation in AI principles, algorithms, and programming languages like Python and R.
2. **Engage in Hands-On Learning:** Participate in real-world projects, hackathons, and internships to gain practical experience.
3. **Explore Interdisciplinary Applications:** Learn how AI intersects with fields such as biology, economics, and environmental science.

Skill Development for Professionals

- For working professionals, continuous learning is key to staying relevant in the AI-driven landscape. Online courses, certifications, and workshops offer avenues to:
- Master advanced techniques such as neural networks and natural language processing.
- Gain expertise in tools like TensorFlow, PyTorch, and scikit-learn.
- Understand ethical implications and best practices in AI deployment.

EDITORIAL BOARD

Academic Year	Name of the Magazine	Editorial Members
MAR-MAY 2022-2022	TECH HERTZ'S 22	Faculty Coordinators: Ms. B. Shanmathi Student's Convenors: Vignesh Rohith R Loghanandhini K Godson J