



MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

ECE-DEPARTMENT
NEWS LETTER/MAGAZINE

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Mr. Marri Laxman Reddy - Chairman

“The pride of every student and staff would be in his/her college. A college reach heights of glory but without materials like college magazine the outside world may not know of it. The role of a college magazine is to promoting what an institute offers. It brings out into the open things which are unrevealed. It brings to light the names of the unsung heroes and their mighty deeds. I am happy that there is a dedicated team of staff and students who have brought out the magazine of our college. They have presented the stupendous achievements of Marri Laxman Reddy Institute of Technology and Management, in the fields of academics, research, sports and extra circular activities, in a nice way. Dazzle represents the collective work of team. I wish the magazine a grand success”.



Dr. K. Venkateswara Reddy Ph.D, M. Tech, MISTE - Principal

“It is a great pleasure to see a creative expressions of students who had contributed to Electro Pulse, MLRITM has grown abundantly in the recent past. It continues to sustain its growth. People reading this magazine will realize the tremendous changes that are happening in the MLRITM campus. The magazine is presenting a glimpse of the growth of the institution on many fronts. The college has been simply unstoppable in its progress as it has been actively involved in various activities that have brought to light the hidden talents of the college students and staff. The highly qualified and dedicated members of staff have always stood shoulder with the management and have carried out their duties with a level of commitment. This magazine has recorded achievements of staff members and students. I wish the management, staff and students of the college success in their future endeavours”.

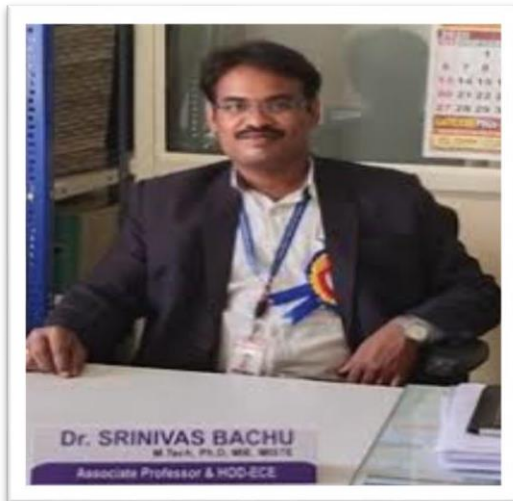


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Dr. Srinivas Bachu Ph. D, MIEEE, FIETE, LISTE – HOD-ECE

“I am happy to learn that MLRITM College of Engineering is coming out with the half yearly college magazine. Efforts such as this will provide an opportunity for the staff and students to participate in technical events, industrial visits, seminars, workshops, sports etc. Such value additions are very much essential for the young technocrats, engineers and scientists, to demonstrate their ideas for a developed India. I sincerely appreciate and congratulate the chairman, Principal, the editorial team and the entire management of the college for their unrelenting efforts in compiling this magazine”.

SEMINAR/ WORKSHOP



A seminar on "5G and Beyond: The Future of Wireless Communication" was conducted by Mrs. K. Deepthi, Assistant Professor, VNRVJIEET, Hyderabad, on 22nd July 2022 for ECE students. The seminar provided valuable insights into the advancements in 5G technology and its future applications in wireless communication. Mrs. Deepthi discussed the technological improvements in data transmission, latency reduction, and network capacity, highlighting the potential of 5G in transforming industries and enhancing connectivity. The session concluded with an interactive Q&A, where students actively engaged and gained a deeper understanding of the subject.

A seminar on "Internet of Things (IoT): Challenges and Opportunities" was conducted by Dr. G. Amarnath, Associate Professor, MLRITM,

Hyderabad, on 10th August 2022 for ECE students. Dr. G. Amarnath provided valuable insights into the fundamentals of IoT, its applications, and the challenges involved in implementing IoT systems. He also discussed future opportunities in the IoT domain and the role of IoT in transforming various industries. The session was highly interactive and helped students gain a better understanding of IoT technologies and their real-world applications.



A seminar on "MATLAB and Applications" was conducted by Dr. M. Suneetha, Assistant Professor, GRIET, on 30th August 2022 for ECE students. Dr. Suneetha provided an overview of MATLAB's powerful computational and visualization capabilities, highlighting its applications in signal processing, image processing, and data analysis. The session enhanced students' understanding of MATLAB's practical use in solving complex engineering problems.

A seminar on "Introduction to Artificial Intelligence" was conducted by Dr. Abdul Basit, HoD, CSE, MLRITM, Hyderabad, on 3rd October 2022 for ECE students. Dr. Basit introduced the core

concepts of Artificial Intelligence, including machine learning, neural networks, and deep learning, highlighting its growing applications in various engineering fields. The session provided valuable insights into AI technologies and their real-world impact.



A two-day workshop on "Image Processing Applications Using Python" was conducted by Dr. B. Ashok Nayak, Associate Professor, MLRITM, Hyderabad, on 9th and 10th September 2022 for ECE students. The workshop aimed to provide students with a comprehensive understanding of image processing techniques using Python. Dr. Nayak began the session by introducing the fundamentals of image processing, including pixel manipulation, image filtering, and transformation. He explained the importance of Python in handling image data efficiently and demonstrated how to work with libraries like OpenCV and NumPy for image analysis.

The second session covered various advanced image processing techniques,

including edge detection, thresholding, and morphological operations. Dr. Nayak provided hands-on training, allowing students to apply these techniques to real-world images. He also discussed how machine learning models could be integrated with image processing tasks for enhanced accuracy and automation. The practical demonstrations helped students understand the implementation process and troubleshoot common challenges in image processing.

On the second day, the workshop focused on feature extraction and image classification techniques. Dr. Nayak guided the students in building a simple convolutional neural network (CNN) using TensorFlow and Keras for image classification tasks. He explained the importance of feature maps and pooling layers in CNNs, helping students grasp the underlying principles of deep learning in image processing. The interactive session allowed students to explore various hyperparameters and evaluate the model's performance.

The workshop concluded with a Q&A session where students clarified their doubts and discussed the potential applications of image processing in fields like medical imaging, security, and automation. Dr. Nayak emphasized the importance of continuous learning and experimentation in mastering image processing.

STUDENT ACHIEVEMENTS



R. Bhanu Teja (Roll Number: 197Y1A0407) won First Prize in DTMF Race and P. Bhargavi (Roll Number: 197Y1A0462) won Second prize in Line Follower at NIT Warangal.



M. Kiran (Roll Number: 207Y5A0409) won First price in Line Follower at IIIT Nnuzived, Andhra Pradesh.

FACULTY ACHIEVEMENTS



M.Tech students D. Harikrishna (217Y1D5501), N. Sowmya (217Y1D5502), S. Sameena (217Y1D5504), V. Lakshman Sai (217Y1D5505), and Vijayalakshmi Aakaaram (217Y1D5506) presented research papers at the **IEEE International Conference on Smart Technologies, Communication and Robotics**, held in Sathyamangalam, India, in December 2022. Their papers focused on applications of **artificial intelligence, machine learning, and image processing** in areas such as diabetic retinopathy detection, fingerprint recognition, low-light image enhancement, COVID-19 classification from CXR images, and medical image

Mr. I. Adum Babu published a paper titled "Machine Learning System for Recognition and Classification of Overlapped Fingerprints" in "2022 Smart

Technologies,
Communication and Robotics
(STCR)" during December 2022.

Mr. D. Rupa Kumar published a paper titled "Design of Flexible Floating Point Processing Element (FFPPE) Architecture Based on Golay Code Strategy in "Wireless Personal Communications, Springer", during July 2022.



Dr. Bachu Srinivas and Mr. N. Uday Kumar published a conference paper titled "Satellite Image Dehazing Using Fast Iterative Domain Gaussian Guided Image Filtering" in IEEE International Conference on Smart Electronics and Communication (ICSEC) during Nov 2022.



Dr. G. Amarnath, published a paper titled "AlInN/GaN HEMT on Silicon Substrate with GD-Field-Plate: Modelling and Simulation of Electric-Field and Breakdown-Voltage Characteristics" in "Silicon, Springer" Journal during November 2022..



Vision of the Institute

To be a globally recognized institution that fosters innovation, excellence, and leadership in education, research, and technology development, empowering students to create sustainable solutions for the advancement of society.

Mission of the Institute

To foster a transformative learning environment that empowers students to excel in engineering, innovation, and leadership.

To produce skilled, ethical, and socially responsible engineers who contribute to sustainable technological advancements and address global challenges.

To shape future leaders through cutting-edge research, industry collaboration, and community engagement.

Quality Policy

- Ensure excellence in education through innovative teaching and continuous improvement.
- Promote ethical, skilled, and employable graduates who drive sustainable technologies.
- Encourage research, industry collaboration, and community engagement for societal benefit.



Vision of the Department

Imparting quality technical education through research, innovation and team work for a lasting technology development in the area of Electronics and Communication Engineering.

Mission of the Department

M1: Establish a unique learning environment to enable the students to face the challenges of the Electronics and Communication Engineering field.

M2: Promote the establishment of centre of excellence in niche technology areas to nurture the spirit of innovation and creativity among faculty and students.

M3: Provide ethical and value-based education by promoting activities addressing the societal needs.

M4: Enable students to develop skills to solve complex technological problems of current times and provide a framework for promoting collaborative and multidisciplinary activities.

Educational Objectives (PEO) for the UG Program

PEO 1: Have successful careers in Industry.

PEO 2: Show excellence in higher studies/ Research.

PEO 3: Show good competency towards Entrepreneurship.

Program Outcomes (POs) for the UG Program

Engineering Graduates will be able to:

- 1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. 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.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. 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.

7. **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.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **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.
11. **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.
12. **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.

Program Specific Outcomes (PSOs) for the UG program

1. Analyze and design analog & digital circuits or systems for a given specification and function.
2. Implement functional blocks of hardware-software co-designs for signal processing and communication applications.

Program Educational Objectives (PEOs) for the PG program

PEO1: To build successful careers in embedded systems and related domains through the effective application of technical knowledge in academia, industry, and entrepreneurship.

PEO2: To promote research, innovation, and problem-solving abilities by understanding industrial requirements and emerging technologies for real-world applications.

PEO3: To enhance professional competency and career growth through continuous learning, ethical practices, and global adaptability.

PEO4: To demonstrate leadership, professionalism, teamwork, and effective communication skills in multidisciplinary environments.



Program Outcomes (POs) for the PG program

- 1. Research / Investigation:** An ability to independently carry out research /investigation and development work to solve practical problems.
- 2. Report Preparation:** An ability to write and present a substantial technical report/document
- 3. Domain Mastery (Embedded Systems):** Students should be able to demonstrate a degree of mastery in Embedded Systems
- 4. Application of Engineering Principle:** Acquire and apply engineering principles to design embedded systems and processes that address complex real-world problems.
- 5. Modern Tools & Societal Impact:** Use modern tools to conduct experiments, apply technical skills, and develop solutions for societal challenges and sustainable development.
- 6. Lifelong Learning & Adaptability:** Recognize the value of lifelong learning and proactively engage in ongoing professional development by embracing and integrating emerging technologies.

EDITORIAL TEAM	
Chief Editor	Dr. N. Srinivas
Faculty Coordinators	Dr. G. Amarnath P. Sandhya
Student Coordinators	Ms. K. Apoorva S. (UG) Md Sameena (PG)
Publisher	Marri Laxman Reddy Institute of Technology and Management