AUTONOMOUS VOICE

RAISE

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Official News Bulletin of
RAISE – Robotics and AI Student Explorers

INNOVATE TODAY, AUTOMATE TOMORROW



MITE
Invent Solutions

Mangalore Institute of Technology & Engineering

(A unit of Rajalaxmi Education Trust ®, Mangalore)
Autonomous Institute Affiliated to V.T.U., Belagavi, Approved by AICTE, New Delhi
Accredited by NAAC with A+ Grade & ISO 9001:2015 Certified Institution

A+ GRADE
CGPA: 3.44

DEPARTMENT OF ROBOTICS AND ARTIFICIAL INTELLIGENCE

VISION

Emerge as a center of excellence in Robotics and Artificial Intelligence by nurturing students to become innovative, ethical, and socially responsible technologists who can contribute to national development and global technological advancement.

MISSION

- *To Impart strong knowledge in Robotics, Artificial Intelligence, and allied domains, fostering innovation and technical competence.*
- *To Equip students with industry-relevant tools and state-of-the-art technologies to address real-world challenges.*
- *To Promote critical thinking, interdisciplinary learning, research, and entrepreneurship for societal benefit.*
- *To Inculcate professional ethics, effective communication, teamwork, and lifelong learning among students.*

PROGRAM EDUCATIONAL OBJECTIVES(PEO'S)

After successful completion of the program, the graduates will be able to

- *Apply the principles of Robotics and Artificial Intelligence to design, develop, and deploy intelligent systems in diverse applications.*
- *Excel in professional careers, advanced studies, or entrepreneurial ventures through continuous learning, skill enhancement and adaptability to emerging technologies*
- *Demonstrate ethical responsibility, leadership, and societal impact while contributing to sustainable technological advancement.*

PROGRAM SPECIFIC OUTCOMES(PSO'S)

At the end of the program, graduates will be able to:

- *PSO1: Apply the Knowledge of Mechanical systems, Electronics, and AI/ML techniques to design intelligent robotic solutions for real-world applications.*
- *PSO2: Design, develop, and implement robotic systems by integrating sensors, actuators, embedded hardware, and software platforms to meet the needs of industry and society.*

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Message from the Head of the Department

It gives me immense pleasure to present the AY 2025-26 edition of our Department Magazine, a reflection of the vibrant academic, research, and extracurricular activities of the Department of Robotics and Artificial Intelligence at Mangalore Institute of Technology & Engineering.

The field of Robotics and Artificial Intelligence is transforming industries, societies, and the way we interact with technology. As a department, we are committed to equipping our students with the knowledge, skills, and innovative mindset required to thrive in this rapidly evolving technological landscape. Through a blend of rigorous academic learning, hands-on laboratory experiences, industry collaborations, research initiatives, and project-based learning, we strive to nurture future-ready engineers and innovators.

This magazine showcases the remarkable achievements, creative endeavors, technical accomplishments, and memorable events that have marked our journey during the academic year. It stands as a testament to the dedication and hard work of our students, faculty members, and staff who continuously contribute towards the growth and excellence of the department.

I extend my sincere gratitude to our Management and Principal for their constant support and encouragement. I also thank our industry partners, and well-wishers whose valuable guidance and collaboration enrich the learning experience of our students.

A special appreciation goes to the editorial team for their enthusiasm and commitment in compiling this magazine and capturing the spirit of our department so effectively.

As we move forward, I encourage our students to remain curious, embrace innovation, pursue lifelong learning, and utilize technology responsibly for the betterment of society. May this magazine inspire all of us to continue striving for excellence and contribute meaningfully to the advancement of Robotics and Artificial Intelligence.

Wishing you all a successful and fulfilling academic journey ahead.



~DR. RAMALINGAM H.M
HEAD OF THE DEPARTMENT
DEPARTMENT OF ROBOTICS AND AI

RAISE

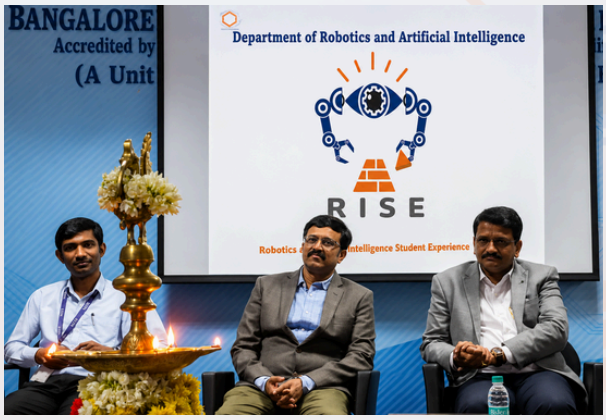
Robotics and AI Student Explorers

RAISE (Robotics and AI Student Explorers) is the official department forum of the Department of Robotics and Artificial Intelligence at Mangalore Institute of Technology & Engineering (MITE), Moodabidri, established on 27th September 2025. Conceived as a vibrant and collaborative platform for budding engineers, RAISE fosters innovation, research, and experiential learning in domains such as robotics, automation, machine learning, and intelligent systems. It aims to bridge the gap between academics and industry by organizing technical workshops, expert lectures, hackathons, and project exhibitions that emphasize problem solving, creativity, and interdisciplinary integration. The forum also encourages participation in national-level competitions, promotes student-led research and prototype development, and supports entrepreneurial pursuits through incubation and mentorship. Beyond technology, RAISE nurtures holistic growth by integrating cultural, social, and ethical dimensions through outreach activities, leadership programs, and community-driven projects that employ AI and robotics for societal benefit. Guided by its vision to "Explore, Innovate, and Transform," RAISE endeavors to cultivate a new generation of engineers who not only master the science of intelligent automation but also use it responsibly to create sustainable and inclusive technological ecosystems.

The departmental news bulletin, titled "Autonomous Voice," serves as a dynamic platform to showcase the achievements, innovations, and activities of the Department of Robotics and Artificial Intelligence. Inspired by the transformative impact of autonomous and intelligent systems, the bulletin reflects the creativity, technical excellence, and collaborative spirit of the RAISE community. It highlights student and faculty accomplishments, research contributions, technical events, industry interactions, innovative projects, and outreach initiatives while fostering knowledge sharing and professional growth. Autonomous Voice also strengthens connections among students, faculty, alumni, and industry professionals, providing a medium to celebrate collective achievements and the continuous pursuit of excellence in Robotics and Artificial Intelligence.

Inauguration of Student Association - RAISE

The inauguration of the Department Student Association (RAISE) was organized by the Department of Robotics and Artificial Intelligence, MITE, Moodabidri, on Saturday, 27th September 2025. The event was graced by Dr. Dinesh M.S., Group Lead, Clinical Informatics – Advanced Development and AI at Philips Enterprise Informatics, as the Chief Guest. Principal Dr. Prashanth C.M. delivered the presidential remarks, encouraging students to actively participate in association activities and make the most of the learning opportunities offered through RAISE.



A unique highlight of the inauguration was the unveiling of the RAISE logo through a remotely operated robotic system by the Chief Guest. The innovative setup was conceptualized and developed by the third semester RAI students using materials and components repurposed from projects exhibited during the first-year project exhibition. The remotely controlled mechanism successfully revealed the association logo, demonstrating the students' creativity, technical skills, and commitment to sustainable engineering practices.

The inauguration of RAISE marks the beginning of an exciting journey for the Department of Robotics and Artificial Intelligence, providing students with a platform to learn, innovate, and lead in the rapidly evolving world of intelligent technologies.



The program concluded with a vote of thanks delivered by Dr. Aveen K.P. ,who expressed gratitude to the dignitaries, faculty members, student organizers, and participants for their contributions to the success of the event. The inauguration of RAISE marks the beginning of an exciting journey for the Department of Robotics and Artificial Intelligence, providing students with a platform to learn, innovate, and lead in the rapidly evolving world of intelligent technologies.

Applications of Robotics and Artificial Intelligence in Healthcare

The Department of Robotics and Artificial Intelligence organized an expert talk on "Applications of Robotics and Artificial Intelligence in Healthcare" on Saturday, 27th September 2025 delivered by Dr. Dinesh M.S. Group Lead, Clinical Informatics-Advanced Development and AI (Philips Enterprise Informatics. The session provided participants with an in depth understanding of how emerging technologies are revolutionizing modern healthcare systems and improving patient outcomes.

Dr. Dinesh introduced the concept of integrating Artificial Intelligence and Robotics in healthcare, highlighting their role in enhancing diagnostic accuracy, treatment planning, and clinical decision making. He explained how machine learning and deep learning algorithms are being employed to analyze medical images such as X-rays, CT scans, and MRI scans, enabling early detection of diseases and supporting healthcare professionals in diagnosis.



A significant focus was placed on the use of AI-driven predictive analytics in healthcare. Dr. Dinesh demonstrated how intelligent systems can analyze large volumes of patient data to predict disease progression, identify potential health risks, and support personalized treatment strategies. The discussion also covered clinical decision support systems that assist medical practitioners by providing evidence based recommendations derived from data analytics.

The session also addressed critical issues related to data privacy, ethical use of artificial intelligence, transparency in AI algorithms, and regulatory considerations governing healthcare technologies. Students actively interacted with the speaker during the discussion session, seeking clarification on research opportunities, industrial applications, and career prospects in healthcare robotics and artificial intelligence.

The technical talk provided valuable exposure to cutting edge developments in healthcare technology and inspired participants to explore innovative applications of Robotics and Artificial Intelligence for societal benefit. The session successfully broadened students' understanding of the transformative impact of intelligent systems in creating smarter, safer, and more accessible healthcare solutions.

Intelligent Motion: A Hands-on Journey through Robotic Modeling and Simulation

The Department of Robotics & Artificial Intelligence, Mangalore Institute of Technology & Engineering (MITE), organized a two-day workshop titled "Intelligent Motion: A Hands-on Journey through Robotic Modeling and Simulation" on 27th and 28th October 2025. The workshop was conducted by Dr. Ankur Jaiswal, Associate Professor, Department of Mechatronics, MIT Manipal, with the objective of providing students practical exposure to robotic modeling, motion planning, and simulation techniques used in modern automation systems.

The workshop began with an overview of robotics in Industry 4.0, smart manufacturing, and autonomous systems. Dr. Jaiswal emphasized the significance of robotic modeling and simulation in designing, validating, and optimizing robotic systems before physical implementation.



Day 1: Fundamentals of Robotic Modeling and Motion Analysis

The first day focused on the fundamentals of robotic manipulators and kinematic modeling. Participants were introduced to robot components such as links, joints, actuators, end effectors, and sensors. Key fundamental concepts including Degrees of Freedom (DOF), coordinate transformations, homogeneous transformation matrices, and Denavit-Hartenberg (D-H) parameters were discussed.



Students learned the principles of Forward Kinematics and Inverse Kinematics, enabling them to determine end-effector positions and corresponding joint configurations. Additional topics such as workspace analysis, singularities, and trajectory planning were also covered.

Hands-on sessions using RoboAnalyzer and RoboStudio allowed participants to model robotic manipulators, visualize kinematic chains, analyze workspace boundaries, and simulate robot trajectories. These exercises helped students connect mathematical concepts with practical robotic motion analysis and simulation.

Day 2: Advanced Simulation and Industrial Applications

The second day concentrated on advanced simulation methodologies and industrial applications of robotic systems. Participants learned how digital simulation platforms are employed to validate robotic designs, optimize operational performance, and identify potential issues before physical implementation. Dr. Jaiswal demonstrated various techniques for robot path planning, collision detection, cycle-time optimization, and motion verification in virtual simulation environments.

A major focus was placed on robot trajectory planning and optimization, where students analyzed the impact of velocity, acceleration, and motion constraints on robotic performance. The workshop also introduced concepts of intelligent control systems and their integration with robotic manipulators for achieving precision, adaptability, and efficiency in automated operations.

Using RoboStudio, participants developed simulation models of industrial robotic tasks such as pick-and-place operations, material handling, and assembly-line automation. These exercises demonstrated how simulation tools can be used to evaluate system performance, improve accuracy, reduce energy consumption, and optimize production workflows. The resource person further discussed the role of digital twins, virtual commissioning, and simulation-driven engineering in modern manufacturing industries.



Case studies from industrial automation, smart factories, and research-oriented robotic applications were presented to illustrate the practical significance of robotic modeling and simulation. Students actively engaged in solving simulation-based problem statements, strengthening their ability to design, analyze, and troubleshoot robotic systems using engineering principles.

Outcomes and Conclusion :

The workshop provided participants with comprehensive exposure to robotic kinematics, motion analysis, path planning, and industrial simulation techniques. Students gained hands-on experience with professional simulation tools, improved their understanding of robot behavior and control, and developed practical skills relevant to automation and robotics industries. The program successfully bridged the gap between theoretical learning and industrial practice, equipping participants with essential competencies for advanced studies, research, and careers in robotics, automation, and intelligent systems.

Two-Day Workshop on Additive Manufacturing and Process Optimization for Robotic Applications

The Department of Robotics and Artificial Intelligence, Mangalore Institute of Technology & Engineering (MITE), organized a two-day hands-on workshop titled "Additive Manufacturing and Process Optimization for Robotic Applications" on 9th and 10th December 2025. The workshop was conducted by Dr. Aveen K. P. and Dr. Adithya Hegde, Assistant Professors, Department of Robotics and Artificial Intelligence, MITE. The program aimed to provide students with practical exposure to the complete additive manufacturing workflow, from computer-aided design to fabrication of functional prototypes for robotic applications.

Day 1: CAD Modeling and Design for Additive Manufacturing

The first day focused on the fundamentals of additive manufacturing and design methodologies for Fused Deposition Modeling (FDM)-based 3D printing. The resource persons introduced participants to various additive manufacturing technologies, materials used in rapid prototyping, and their diverse applications in robotics, automation, healthcare, automotive engineering, product development and aerospace.

Students were trained in Fusion 360 for developing three-dimensional parametric models. The session covered sketch creation, feature-based modeling, constraints, dimensions, extrusion, pattern generation, and assembly concepts.

Participants designed robotic components and functional prototypes using Fusion 360 and subsequently converted their designs into STL (Standard Tessellation Language) files, the standard format used for additive manufacturing. The session also highlighted common modeling errors and techniques to prepare printable geometries suitable for FDM processes.



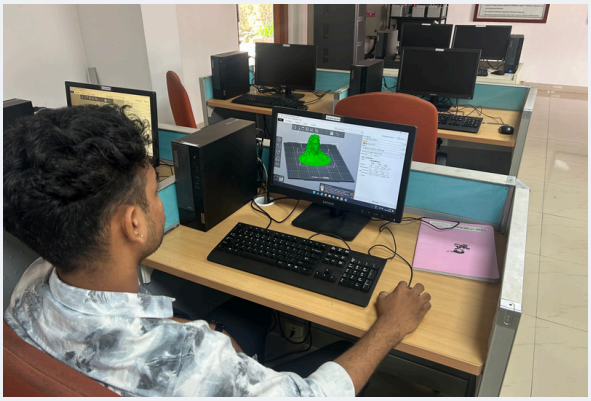
The resource persons also explained the importance of Design for Additive Manufacturing (DfAM) principles, including minimum wall thickness, overhang limitations, support requirements, and part orientation. Common modeling errors such as non-manifold geometries, intersecting surfaces, open sketches, and mesh defects were discussed along with methods to rectify them. Students were guided on optimizing designs for reduced material consumption, improved structural strength, and enhanced printability, ensuring that the developed models were suitable for efficient fabrication using FDM-based 3D printing systems.

Day 2: Slicing, Process Optimization and 3D Printing

The second day focused on process planning and fabrication using FDM-based 3D printers. Students were introduced to PrusaSlicer, an industry-recognized slicing software used to convert STL models into machine-readable G-code instructions.

The resource persons demonstrated the influence of various slicing parameters on print quality, build time, and material consumption. Participants learned to optimize parameters such as layer height, infill density, shell thickness, print speed, support structures, build orientation, and temperature settings.

Each student imported the STL files developed during Day 1 into PrusaSlicer and generated optimized slicing profiles. Students analyzed toolpaths, estimated print durations, and material usage before generating the final G-code for fabrication. To provide practical manufacturing experience, the participants were divided into batches and their models were fabricated using the 3D printing facility available at MITE.





The printed models were inspected and evaluated for dimensional accuracy, surface finish, structural integrity, and print quality. The discussion enabled students to correlate design decisions and slicing parameters with the final printed output.

Outcomes :

The workshop successfully provided participants with end-to-end exposure to the additive manufacturing workflow. Students gained practical experience in CAD modeling using Fusion 360, STL file generation, slicing using PrusaSlicer, process parameter optimization, and prototype fabrication through FDM 3D printing. The hands-on approach enhanced their understanding of rapid prototyping techniques and their applications in robotics and intelligent systems.

The workshop served as an effective platform for developing industry-relevant skills in digital design, process planning, and advanced manufacturing technologies, aligning with the department's vision of fostering innovation and experiential learning in Robotics and Artificial Intelligence.

Two-Day Workshop on Smart Factory Automation using PLC & Factory I/O

The MITE Innovation & Incubation Center, in association with the Department of Robotics and Artificial Intelligence (RAI), Mangalore Institute of Technology & Engineering (MITE), organized a two-day hands-on workshop on "Smart Factory Automation using PLC & Factory I/O" on 6th and 7th April 2026 at the MITE Innovation Center. The workshop was conducted by Mr. Bharath T.S., Director, iRobo Automation Pvt. Ltd., an expert in industrial automation and smart manufacturing technologies. The program aimed to provide students with practical exposure to Industry 4.0 concepts, programmable logic controllers (PLCs), virtual factory simulation, and intelligent manufacturing systems, while also introducing them to modern automation workflows, industrial control strategies, and real-time process monitoring in smart production environments.



Day 1: Factory I/O with Control I/O

The first day focused on the fundamentals of industrial automation and smart manufacturing. The resource person introduced participants to Industry 4.0 concepts, cyber-physical systems, digital manufacturing, and the growing role of automation in modern industries. Students were familiarized with the Factory I/O simulation platform, a realistic 3D virtual environment used for designing, testing, and validating industrial automation systems.

The hands-on sessions covered Factory I/O environment setup, I/O mapping, digital sensors and actuators, start-stop circuits, emergency stop logic, latching circuits, and conveyor automation. Participants learned how industrial devices communicate through digital input and output signals and how these signals are processed within automation systems.

Students developed conveyor-based material handling systems and implemented object detection using proximity and photoelectric sensors. The practical exercises enabled participants to understand automation workflows, sequencing operations, and industrial process control in a smart factory environment. The first day concluded with students gaining confidence in configuring virtual industrial systems and understanding how automation logic can be applied to solve real-world manufacturing problems.

Day 2: Factory I/O Integration with Bosch Rexroth PLC

The second day concentrated on PLC programming and industrial controller integration. Participants were introduced to Bosch Rexroth PLC architecture and the IndraWorks Engineering Suite, widely used in industrial automation applications. The resource person explained PLC hardware components, memory organization, input-output addressing, and industrial communication concepts.

Students were trained in ladder logic programming using IndraLogic, where they developed programs incorporating normally open and normally closed contacts, coils, timers, counters, and memory functions. The session emphasized translating industrial process requirements into PLC control logic.

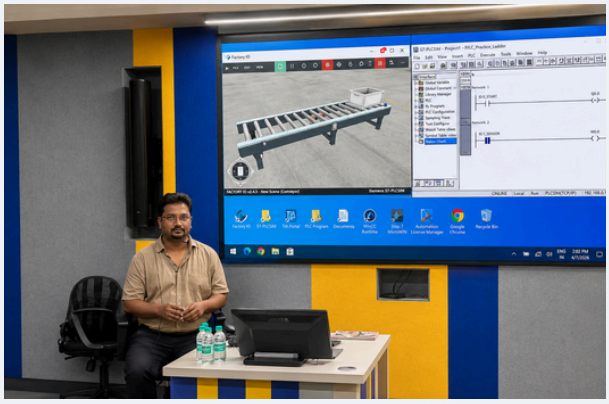
A major highlight of the workshop was the integration of Bosch Rexroth PLCs with Factory I/O. Participants established communication between the virtual factory environment and PLC controllers through input-output mapping. Students developed automation projects involving conveyor sequencing, object detection, product counting, sorting systems, and automated material handling operations.

Advanced exercises included timer-based control, counter-based production monitoring, and simulation of pick-and-place operations. Participants monitored online PLC execution, diagnosed programming errors, and optimized ladder logic for efficient operation.

Through troubleshooting exercises, students gained practical exposure to industrial commissioning and debugging procedures commonly followed in manufacturing industries. The printed models were inspected and evaluated for dimensional accuracy, surface finish, structural integrity, and print quality. The discussion enabled students to correlate design decisions and slicing parameters with the final printed output.

Outcomes

The workshop successfully provided participants with end-to-end exposure to the additive manufacturing workflow. Students gained practical experience in CAD modeling using Fusion 360, STL file generation, slicing using PrusaSlicer, process parameter optimization, and prototype fabrication through FDM 3D printing. The hands-on approach enhanced their understanding of rapid prototyping techniques and their applications in robotics and intelligent systems. The workshop served as an effective platform for developing industry-relevant skills in digital design, process planning, and advanced manufacturing technologies, aligning with the department's vision of fostering innovation and experiential learning in Robotics and Artificial Intelligence.



Two-Day Workshop on Practical Approaches to Finite Element Modeling

The Department of Robotics and Artificial Intelligence, in association with the ISTE MITE Chapter, successfully organized a two-day workshop on "Practical Approaches to Finite Element Modeling" on 25th and 26th May 2026 at the Innovation Lab, MITE. The workshop was designed to provide students with a strong foundation in Finite Element Analysis (FEA) and expose them to modern engineering simulation tools used for design validation, structural analysis, and product development. A total of 57 fourth-semester students of the Department of Robotics and Artificial Intelligence participated in the program. The workshop was conducted by Dr. Gaurav Shenoy, MIT Manipal, who shared his expertise in computational mechanics and engineering simulation.

Day 1: Fundamentals of Finite Element Analysis and Model Development

The first day commenced with an introduction to the theoretical foundations of the Finite Element Method (FEM) and its significance in modern engineering design. The resource person explained the need for numerical methods in solving complex engineering problems that cannot be addressed through analytical approaches.



Topics such as discretization, meshing, nodes, elements, degrees of freedom, shape functions, stiffness matrices, and boundary conditions were discussed in detail.

Participants were then introduced to the simulation environment and familiarized with the tools required for finite element modeling. The hands-on session focused on node and element creation, geometry generation, material property assignment, and mesh development. Students learned how engineering structures are converted into finite element models suitable for computational analysis.

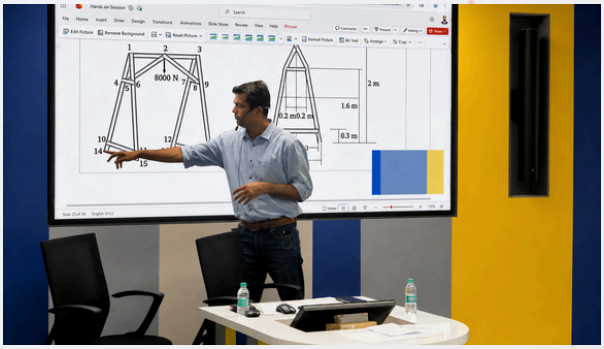
In the afternoon session, participants developed a basic structural component and learned preprocessing operations such as defining element types, assigning material properties, generating meshes, and applying constraints. The session emphasized the importance of mesh quality and model preparation in obtaining accurate simulation results. Students explored different meshing techniques and observed how element size and mesh density influence the accuracy and computational efficiency of finite element solutions. The resource person demonstrated best practices for geometry cleanup, mesh refinement, and model validation prior to analysis. Participants also learned to define boundary conditions and loading scenarios that closely represent real-world engineering applications. Through guided exercises, students examined the relationship between material properties, geometry, and structural behavior under applied loads.

Day 2: Structural Analysis and Advanced Component Modeling

The second day focused on performing structural analysis and interpreting simulation results. Participants analyzed the basic component created on the previous day by applying external loads and boundary conditions. Students learned how the solver computes displacement, stress, strain, and reaction forces within a structure.

The resource person explained the interpretation of contour plots, deformation patterns, and von Mises stress distributions, enabling participants to evaluate structural performance and identify critical stress concentration regions. Concepts related to design safety, factor of safety, and structural optimization were also discussed.

In the subsequent sessions, students created and analyzed an advanced engineering component with more complex geometry and loading conditions. They learned techniques for refining meshes, validating simulation results, and improving design efficiency through iterative analysis. Practical exercises demonstrated how finite element analysis can reduce development time and minimize physical prototyping costs by validating designs in a virtual environment.The workshop concluded with discussions on industrial applications of FEA in robotics, automotive systems, aerospace structures, product development, and mechanical design. Students actively participated in problem-solving exercises and gained valuable exposure to engineering simulation methodologies used in research and industry



The workshop successfully enhanced participants' understanding of finite element modeling, computational mechanics, and structural simulation. Students gained practical experience in model creation, meshing, load application, structural analysis, and result interpretation. The program strengthened their analytical thinking, problem-solving abilities, and proficiency in engineering simulation tools. The hands-on learning experience provided students with valuable skills relevant to design validation, optimization, and modern engineering practice, thereby preparing them for advanced research and industry-oriented applications.

In addition, the workshop enabled participants to appreciate the role of simulation-driven design in reducing product development time, minimizing prototyping costs, and improving engineering decision-making. Students developed the ability to evaluate structural performance under various loading conditions and understand the significance of stress distribution, deformation characteristics, and safety considerations in engineering design. The exposure to industrially relevant finite element techniques enhanced their readiness to undertake multidisciplinary projects involving robotics, automation, mechanical systems, and product development.

Project Exhibition at Karnataka Public School, Mijar

The Department of Robotics & Artificial Intelligence (RAI), Mangalore Institute of Technology & Engineering (MITE), organized and participated in a Project Exhibition at Karnataka Public School, Mijar, on 18 December 2025 as part of AICTE Activity Point initiatives. The event aimed to promote technical awareness among school students while providing engineering students with an opportunity to showcase their innovative projects and practical skills.

A total of 57 third-semester RAI students actively participated in the exhibition by presenting a variety of working models and prototypes developed as part of their academic and extracurricular activities. The projects demonstrated fundamental concepts of robotics, automation, embedded systems, and intelligent technologies. Some of the key exhibits included Arduino-based systems, fire detection alarm systems, and sensor-based automation models. These projects highlighted the practical applications of electronics, programming, and automation in solving real-world problems. During the exhibition, students explained the working principles, components, and applications of their projects to visiting school students and teachers.



The interactive demonstrations generated significant interest among the attendees and provided valuable exposure to emerging technologies in robotics and artificial intelligence.



The event served as an effective platform for knowledge sharing, community engagement, and technical outreach. By participating in the exhibition, students gained hands-on experience in project presentation and teamwork while fulfilling AICTE requirements for co-curricular and outreach activities. The Department of Robotics & Artificial Intelligence continues to encourage such initiatives that foster innovation, technical competence, and societal impact among students.



AICTE Activity Point Program

Facilitating 100% Digitized Money Transactions

The Department of Robotics & Artificial Intelligence (RAI), Mangalore Institute of Technology & Engineering (MITE), successfully conducted an awareness activity titled “Facilitating 100% Digitized Money Transactions” from 14 May 2026 to 31 May 2026 as part of the AICTE Activity Point initiative. The activity aimed to promote digital payment practices and create awareness among the public regarding secure, efficient, and cashless financial transactions.

The primary objective of the initiative was to encourage students to contribute towards digital empowerment by assisting individuals and local businesses in adopting digital payment methods. Students actively engaged with local vendors, shopkeepers, and members of the community to demonstrate the use of UPI-based payment applications and other digital transaction platforms. They explained the benefits of cashless transactions, including convenience, transparency, reduced transaction time, and improved financial inclusion.



Students participated either individually or in teams and completed the required hours of community engagement. The activity was documented through geo-tagged photographs, activity reports, and participation records as per institutional guidelines. The initiative provided students with an opportunity to interact with the community, understand real-world challenges in digital adoption, and contribute to the Government of India's vision of a digitally empowered society.



The activity proved to be highly beneficial for both the participants and the community. It enhanced students’ communication, leadership, teamwork, and social responsibility skills while creating awareness about secure and effective digital transaction systems. The outreach program successfully fulfilled its objectives and served as a meaningful platform for community engagement under the AICTE Activity Point scheme.

The Department of Robotics & Artificial Intelligence appreciates the enthusiastic participation of students and encourages continued involvement in similar activities that contribute to technological awareness and societal development.

Student Corner



Akshay R. Shetty, Prajnesh, Pranav Nayak, and Smithan S. M. of 2nd year Robotics and Artificial Intelligence have secured 2nd place in the ROBO Competition held during the IEEE International Conference on Robotics and Mechatronics , organized by Amrita Vishwa Vidyapeetham, Kochi, on 7–8 November 2025.

The team showcased their innovative robotic design and problem-solving skills in a highly competitive environment that featured participants from leading institutions across the country. Their accomplishment reflects the department's strong focus on experiential learning, research, and excellence in the field of robotics



Hamish Lobo, Thushar Anchan, and Hani from the Department of Robotics and Artificial Intelligence secured Second Prize in VOLTCRAFT - an Electronics Build Challenge organized by the Department of Electronics & Communication Engineering, MITE.

Student Corner



Anish R and Mohammed Aayan Mohtisham of 2nd year Robotics and Artificial Intelligence secured 2nd Place in the Code2Bot Competition at Techzone Nationals, held at J.N.N. College of Engineering (J.N.NCE), Shivamogga, on 10–11 November 2025. In the same event, Mithul Saran A B secured 2nd Place in the Photography Competition. These achievements reflect strong technical skills, creativity, and effective teamwork. Students are encouraged to participate in upcoming technical competitions, hackathons, and innovation challenges to further enhance their learning and showcase their capabilities

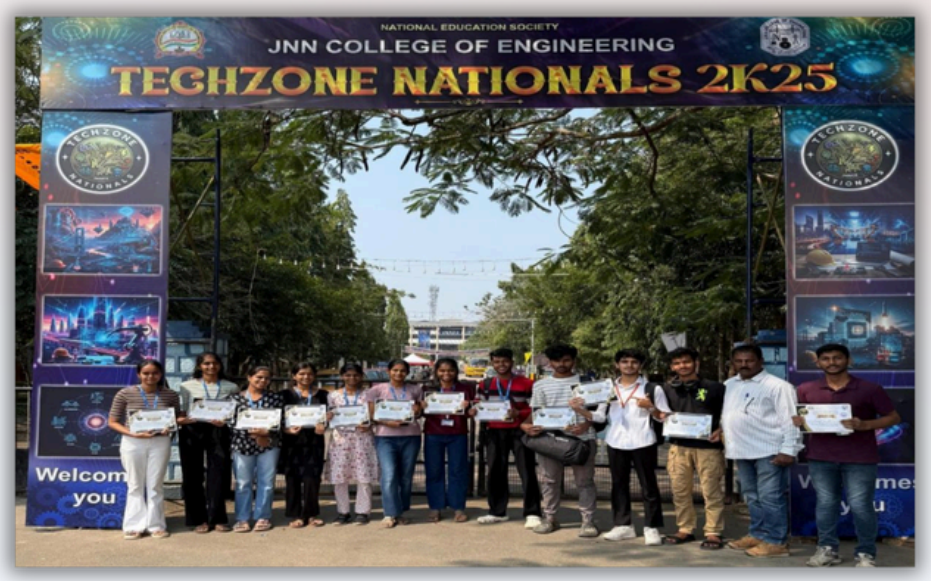


Rakshan R. Adapa and Prajnesh of 2nd year Robotics and Artificial Intelligence secured Second Place in the Logicide technical coding competition conducted during Incredia 2026, organized by NMAM Institute of Technology (NMAMIT), Nitte. The competition featured multiple rounds, including a Coding Quiz, a Black Box Reverse Coding Challenge, and a HackerRank Coding Round, testing participants' programming, logical reasoning, problem-solving, and teamwork skills.

Student Corner



Congratulations to Shetty Kshitij Deepak, a second-year RAI student and a member of the MITE Euphoria Mystique team, for emerging as a winner in the Corporate Walk event at NITK BIZWAVES.



Second Year Students of RAI Department Participated many technical events in the Techzone Nationals 2025 at, Jawaharlal Nehru New College of Engineering (JNNCE), Shivamogga

The Power of Self-Discipline in Student Life

Success is not achieved overnight; it is the result of consistent effort and self-discipline. Self-discipline is the ability to control one's actions, emotions, and habits to achieve long-term goals. For students, self-discipline plays a vital role in academic performance, personal growth, and future success.

One of the biggest advantages of self-discipline is effective time management. Students who follow a daily schedule can balance their studies, extracurricular activities, and personal life more efficiently. Instead of procrastinating, disciplined students complete their tasks on time and reduce stress before examinations and project deadlines.

Self-discipline also helps in developing focus and determination. In today's digital world, distractions such as social media, online games, and entertainment are everywhere. Students who practice self-control can stay focused on their priorities and make productive use of their time. This ability to concentrate on important tasks leads to better learning outcomes and improved confidence.

Another important aspect of self-discipline is personal development. It teaches responsibility, patience, and perseverance. When students set goals and work consistently toward them, they learn the value of hard work and commitment. These qualities are essential not only during college life but also in professional careers.

Leadership is closely connected to self-discipline. A good leader leads by example, maintains integrity, and remains committed to responsibilities. By cultivating self-discipline, students can develop leadership qualities such as decision-making, accountability, and resilience.

In conclusion, self-discipline is a powerful tool that shapes an individual's character and future. By practicing discipline in daily life, students can achieve their academic goals, develop leadership skills, and become responsible citizens. Small disciplined actions taken today can lead to great achievements tomorrow.

Sinchana L- 4MT24RI056

Smart Oceans: How AI is Helping Marine Life

The oceans cover more than 70 percent of the Earth's surface and are home to countless species of plants and animals. They play a crucial role in regulating climate, producing oxygen, and supporting human livelihoods. Despite their importance, oceans face major threats such as pollution, climate change, overfishing, and habitat destruction. In recent years, Artificial Intelligence (AI) has emerged as a powerful technology that helps scientists and conservationists protect marine ecosystems more effectively.

One of the biggest challenges in marine research is the enormous amount of data collected from satellites, underwater sensors, drones, and research vessels. AI systems can quickly analyze this information and identify patterns that would take humans much longer to detect. This enables researchers to monitor ocean conditions, track environmental changes, and make faster decisions for conservation efforts.

AI is particularly useful in monitoring marine wildlife. Advanced image-recognition systems can identify different species of fish, whales, dolphins, and sea turtles from photographs and videos. Scientists use this information to study migration routes, population sizes, and animal behavior, which is essential for protecting endangered species and maintaining biodiversity.

Coral reefs are another area where AI is making a difference. These ecosystems support a vast range of marine organisms but are increasingly threatened by rising ocean temperatures and pollution. AI-powered monitoring systems can detect signs of coral bleaching and reef degradation at an early stage, helping conservation teams respond before severe damage occurs.

Illegal fishing remains a serious global issue. AI-based tracking systems analyze vessel movements and detect suspicious activities in real time. Authorities can use these insights to enforce fishing regulations and protect marine resources. The combination of robotics and AI is also revolutionizing underwater exploration through autonomous underwater vehicles that collect data, map the ocean floor, and monitor habitats.

As technology continues to advance, AI will become even more important in ocean conservation. Smart oceans represent a future where technology and environmental protection work together. In conclusion, Artificial Intelligence is helping create smarter oceans by supporting research, conservation, and sustainable resource management, ensuring the long-term health of marine ecosystems.

Shreyas S Sapalya - 4MT24RI044

Student Corner

From Circuits to Tracks: Our Journey Through Technical Symposiums

Over the past year, we have traveled across multiple institutions, testing our technical skills in robotics, automation, and circuit design. These competitive events have served as an incredible platform to transition from theoretical classroom concepts to solving real-world physical challenges, particularly in the realm of urban innovation.

At Amrita Vishwa Vidyapeetham, Kerala, our team built an autonomous garbage-collecting truck featuring active waste segregation. The initial hurdle was mapping the complex circuit connections and ensuring flawless communication between the sensor arrays and the various actuation mechanisms. We later brought a refined, highly efficient version of this automation project to the Protoview exhibition at SAMBHRAM-25 of Shri Devi Institute of Technology. Standing before expert evaluators was challenging, but it vastly improved our technical presentation abilities and pushed us to deeply understand every structural nuance and mechanical factor of our model.

Transitioning from automation to pure agility, we entered the Robo Race events at AAKRITI (Canara Engineering College) and Incredia (NMAMIT). The unforgiving, sharply angled tracks at NMAMIT demanded exact bot specifications and unyielding stability. During these intense races, we gained highly practical knowledge on wiring Electronic Speed Controllers (ESCs) and calculating the specific motor torque required to violently navigate steep, difficult turns. Overcoming track-side signal interference challenges ultimately gave us precise, real-time command over the bot's wireless control system.

Perhaps the most intense experience was at MITE's VOLTCRAFT, an electronics hackathon organized by the D-CUBE Club and ECSA. Tasked with building a working model from a completely random assortment of components under a strict time limit, the pressure was immense. The primary challenge was rapid hardware troubleshooting and on-the-fly circuit design. A critical technical takeaway for us was mastering immediate component pinout logic specifically utilizing op-amps like the LM741 and ensuring perfect, rapid wiring of the CL100 transistor . Overcoming these stress-test technical hurdles, we secured the runner-up position, marking a proud milestone in our achievement journey.

Ultimately, each competition has been a vital stepping stone. From debugging complex sensor networks to optimizing raw motor mechanics, these rigorous hands-on experiences have profoundly shaped our practical approach to our engineering journey.

Thushar Anchan - 4MT24RI049
Hamish Lobo - 4MT24RI010



Thushar Anchan and team with their innovative robotics project at Amrita Vishwa Vidyapeetham, Kochi

Student Corner

My Journey at VOLTCRAFT – From Scrap to Innovative Spark

Recently, I had the opportunity to participate in VOLTCRAFT – From Scrap to Innovative Spark, an Electronics Build Challenge organized by departement of Electronics & Communication Engineering, MITE to celebrate creativity, innovation, and practical engineering skills. The event provided a platform for students to transform simple and unused electronic components into functional and innovative projects. As a student passionate about technology and problem-solving, I was excited to take part in this competition and test my technical abilities in a real-world setting.The core objective of the competition was to encourage students to think creatively and make effective use of available resources. Instead of relying on expensive equipment, participants were challenged to design and build innovative solutions using basic electronic components and recycled materials. This approach highlighted the importance of sustainability while promoting engineering innovation.

Preparing for the competition was both challenging and exciting. I spent time brainstorming ideas, planning the circuit design, and assembling the required components. Throughout the process, I learned how to manage resources efficiently, troubleshoot technical issues, and improve the overall functionality of the project. Every stage of development required patience, teamwork, and careful attention to detail.

One of the most valuable aspects of the event was the opportunity to interact with students from different disciplines who shared a common interest in innovation. Observing their projects and discussing technical concepts broadened my understanding of electronics and inspired me to explore new approaches to problem-solving. The feedback provided by the judges also helped me identify areas for improvement and strengthened my confidence in presenting technical ideas.

I was delighted and honored to receive the Second Prize in the competition. This achievement was a rewarding recognition of the effort, creativity, and dedication invested in the project. More importantly, it motivated me to continue exploring practical applications of engineering and innovation.

Participating in VOLTCRAFT was an unforgettable learning experience. It enhanced my technical knowledge, improved my problem-solving skills, and reinforced the importance of creativity in engineering. The event demonstrated how innovation can emerge from simple ideas and limited resources, and I look forward to participating in similar challenges in the future.

Hani R-4MT24RI011



Hani and Team in the VOLTCRAFT Event

AI: The Designer's Smartest Assistant

Imagine creating a product, a robot, or an entire building in just a few hours instead of several weeks. Thanks to Artificial Intelligence (AI), designing is becoming faster, smarter, and more innovative than ever before. AI is not replacing designers or engineers—it is empowering them by automating repetitive tasks and allowing them to focus on creativity and problem-solving.

In engineering, AI-powered design tools can generate multiple design concepts within minutes based on user requirements such as size, weight, material, and cost. This process, known as Generative Design, helps engineers discover solutions that may not have been imagined through traditional methods. Instead of creating one design manually, AI can produce hundreds of optimized alternatives, saving both time and resources.

For robotics students, AI plays a crucial role in designing robot components, mechanical structures, and intelligent control systems. Engineers can simulate robot movements, test different mechanisms, and identify design flaws before building a physical prototype. This reduces manufacturing costs and accelerates product development.

AI is also transforming graphic design and 3D modeling. Designers can quickly create logos, posters, user interfaces, product models, and animations with the help of AI-assisted tools. Features such as automatic background removal, image enhancement, color suggestions, and layout generation make the creative process more efficient while maintaining high-quality results.

Beyond engineering, AI is used in architecture, automobile manufacturing, aerospace, fashion, and healthcare. From designing fuel-efficient vehicles to creating patient-specific medical devices, AI helps professionals develop safer, smarter, and more sustainable solutions.

Despite its remarkable capabilities, AI cannot replace human imagination, emotions, and critical thinking. The best designs emerge when human creativity is combined with AI's speed and analytical power.

My Creative Experience with AI and Figma

To understand how AI assists designers, I used an AI image generation tool to create a demo homepage design for the Royal Challengers Bengaluru (RCB) website. The AI quickly produced a professional-looking concept with a navigation bar, hero section, player images, action buttons, and quick links.

I then recreated the same interface manually in Figma using Frames, Auto Layout, Components, Text, Shapes, and Prototyping tools. Rebuilding the design helped me understand layout structure, spacing, typography, and UI design principles while proving that AI is an excellent assistant for ideation, but human creativity is essential for refining and implementing the final product.

This practical experiment strengthened my understanding of how AI and human creativity work together to create innovative digital experiences.

Shreyas-4MT24RI043

Our Journey at the NAIN Ideathon

Innovation often begins with identifying a real-world problem and exploring ways to solve it. Participating in the NAIN Ideathon gave our team an opportunity to think beyond classroom learning and apply technology to address a meaningful social challenge. We submitted an idea focused on enhancing women's safety through Artificial Intelligence and smart monitoring technologies.

The inspiration for our idea came from a concern faced by many women while travelling alone. Although several safety applications exist, most require users to manually activate emergency alerts. In situations involving fear, panic, or danger, this may not always be possible. Recognizing this limitation, we explored how technology could provide assistance automatically and respond more effectively during emergencies.

The development of our idea began with brainstorming sessions and discussions within the team. We examined various safety-related challenges and studied the limitations of existing solutions. Through this process, we realized that an effective safety system should not only respond during emergencies but also help users avoid potentially risky situations before they occur.

Based on these discussions, we proposed an AI-powered women safety application. The concept was designed to support users before and during travel. Before a journey begins, the application would generate a safety score and recommend the safest route based on available safety-related information. This feature aims to help users make informed travel decisions and choose safer paths.

A key aspect of the proposed solution is its real-time monitoring capability. By combining GPS tracking, motion analysis, and voice-command recognition, the application can identify unusual situations that may indicate danger. If emergency conditions are detected, the system would automatically send alerts along with the user's live location to parents, emergency contacts, police authorities, and nearby helpers, enabling a faster response during critical situations.

The concept also includes an anonymous harassment reporting feature that allows users to report incidents securely while protecting their identity.

Preparing the final submission was a valuable experience that improved our creativity, communication, and teamwork skills. Participating in the NAIN Ideathon strengthened our understanding of innovation and problem-solving while demonstrating how technology can be used to create a positive social impact. The experience inspired us to continue exploring ideas that can contribute to a safer and better society.

Thrupthi- 4MT24RI048

Vision X

Vision X, organized by RAISE during Sentia 2026, was an exciting autonomous robotics competition that attracted enthusiastic participation from numerous engineering student teams. The event challenged participants to design and build fully autonomous robots capable of navigating a predefined track using only camera-based vision processing and real-time decision-making. Powered by Raspberry Pi and onboard image processing, the robots demonstrated advanced concepts in robotics, embedded systems, computer vision, and artificial intelligence. Teams showcased exceptional technical skills, creativity, and problem-solving abilities while competing to achieve the fastest and most accurate navigation. The competition provided students with valuable hands-on experience in developing intelligent robotic systems under real-world constraints. Throughout the event, participants displayed remarkable teamwork, innovation, and engineering excellence, making the competition highly engaging and competitive. Vision X served as an excellent platform for students to apply theoretical knowledge to practical applications, encouraging innovation, technical learning, and collaboration while promoting the growing field of autonomous robotics among aspiring engineers.









Student Corner

Beyond Winning: What Code2Bot Taught Me

College life offers opportunities that extend far beyond classrooms. One of the most memorable moments of my engineering journey was participating in the Code2Bot competition during a national-level HackFest at JNNCE, Shivamogga.

My teammate and I entered the competition with no expectation of winning. It was our first technical competition, and our goal was simply to learn and experience a national platform. We travelled to Shivamogga by government bus, excited to represent our department and interact with students from different colleges.

The first round required participants to debug C programs filled with errors. Working together, we successfully qualified for the next stage. The second round required us to debug Arduino code and implement it on a line-following robot. Although I had very little knowledge of Arduino programming, we spent the previous night learning the basics and preparing as much as possible.

On the day of the competition, our determination and teamwork helped us overcome the challenges. To our surprise, we secured second place among several talented teams. The achievement became one of the proudest moments of my college life.

More valuable than the prize itself was the lesson I learned. Before this event, I believed success meant only winning. This competition taught me that true success begins with the courage to participate. Every challenge pushed me to learn faster, think critically, and work effectively as part of a team.

I sincerely thank the Department of Robotics and Artificial Intelligence, for constantly encouraging students to participate in competitions and innovation-driven events. Their support gave us the confidence to represent our institution and grow beyond the classroom.

To every student, especially my juniors, I have one message: never hesitate to participate. Winning and losing are temporary, but the knowledge, confidence, friendships, and experiences gained through participation remain with you for life. Sometimes, one opportunity is all it takes to discover your true potential.

Mohammed Aayan- 4MT24RI021

ECHOES OF THE SOUL

"Iss tarah qaid hoon teri yaadon ki zanjeeron mein,
Ke raah-e-azaadi bhi mile... toh usse thukra doon."

> **Translation:** I am imprisoned in the chains of your memories in such a way, That even if the path to freedom is offered... I would reject it.

- SHETTY ARMAN SEETHARAM

"Umeed dekar bhale hi tabahi ka iraada kar lo,
Hum ussi umeed ko jeene ki wajah bana lenge, guzaare ki nahi."

> **Translation:** Even if you give me hope with the intention of bringing destruction, I will turn that very hope into a reason to truly live, not just to survive.

- SHETTY ARMAN SEETHARAM

Tu Hi Sitaara

Hooooo... hoooooo... hoooooo...
Hmmmmm... hmmmm... hmmmm...

Tu hi sitaara, tu hi manzil,
Kitna chahunga tujhko.

Bas tu hi raasta, tu hi zariya,

Tere bin ji loon main ek bhi din na.
Tu hi sitaara, tu hi manzil,
Kitna chahunga tujhko.

Tera hoke rahunga main,

Tere siwa mar hi jaunga.
Yaadein teri paas bulaati hain mujhe,
Tu hi haqeeqat hai meri.

Tu hi dard, tu hi pyaar,
Tere bin jee loon bas kuch hi pal.
Tu hi sitaara, tu hi manzil,
Kitna chahunga tujhko.

Tujhko... ooooo...
Tujhko... ooooo...

Bas yaadein saath hain mere,
Tu hi meri manzil tu.

Tu hi meri haqeeqat,
Jee loon main tere sang.
Bas tera hoke rahun main,
Bas tera hoke rahun main.

Kisse jo humare beh gaye hain,
Yaadein jo teri kho gayi hain.

Hooooo... hoooooo... hoooooo...
Hmmmmm... hmmmm... hmmmm...

Tu hi sitaara, tu hi manzil,
Kitna chahunga tujhko.

Bas tera main hoke rahun,
Bas tera main hoke rahun.
Teri jo baatein yaad hain mujhe,
Tere sang jee loon.

Bas tera hoke jee loon,
Bas tera hoke jee loon.

Hmmmmm... hmmmm... hmmmm...
Hooooo... hoooooo... hoooooo...

Tu hi sitaara, tu hi manzil,
Kitna chahunga tujhko.

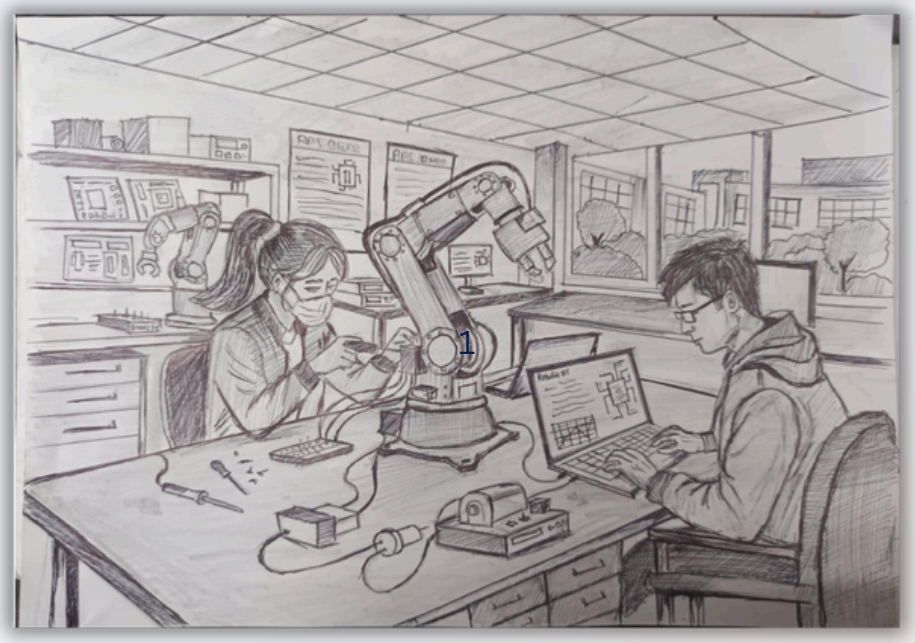
Door sahi hum aaj magar,
Ek din phir milenge zaroor.

Tu hi sitaara, tu hi manzil,
Kitna chahunga tujhko...
Kitna chahunga tujhko...
Kitna chahunga tujhko...

Imad - 4MT24RI013

PRAJWAL S SHETTY
4MT24RI028





As students in this field, we live between two worlds. My sketch (as shown in image) attempts to capture that duality. On one hand, you have the digital realm of real-time control algorithms. On the other, the physical challenge of routing wire harnesses and soldering precise connections. It is here, at this practical intersection where we must bridge the gap between abstract AI and physical manipulation, that true engineering happens. This isn't just about technical skill; it's about the grit, refinement, and collaboration required to create the intelligent systems of tomorrow.

ADITYA NAIK
4MT24RI002



JOVIN ROHAN DSOUZA
4MT24RI015

Faculty Corner

AICTE QIP - PG Certification Program

Dr. Aveen K P, Assistant Professor, Mangalore Institute of Technology & Engineering, Karnataka, successfully completed the AICTE-QIP-PG Certificate Programme titled “From AI to Generative AI: Unlocking the Power of Smart Technologies” conducted by Indian Institute of Information Technology (IIIT) Allahabad in association with AICTE during July 2025 to December 2025.

The programme focused on strengthening faculty knowledge in emerging areas of Artificial Intelligence and smart technologies. The course included modules such as Computational Thinking and Programming with Python, Artificial Intelligence and Machine Learning, Data Science for Engineers, Generative AI, and a Project component. Dr. Aveen K P completed the programme with an impressive CGPA of 9.0 and 98% attendance.

FDP attended

Mrs. Manasa A Shetty participated in a Faculty Development Programme on “ROS2 for Mobile Robotics: From Fundamentals to Autonomous Deployment” conducted by NMAM Institute of Technology, Nitte from 08-12-2025 to 10-12-2025. The programme covered the basics of ROS2 and its applications in mobile robotics and autonomous systems

Mentoring Young Minds Towards Social Innovation

Dr. Ramalingam H. M. and Mrs. Manasa A. Shetty had the privilege of mentoring Ms. Kanishka, a student of NITK English Medium School, in developing “Grabh Setu,” a smart maternal health monitoring system aimed at supporting pregnancy care. The project monitors key health parameters such as fetal movement, contractions, maternal heartbeat, and belt status using sensors and alert mechanisms. Dr. Ramalingam H. M. guided the student on the programming aspects of the project, while Mrs. Manasa A. Shetty provided support in circuit design, sensor interfacing and presentation. With their mentorship, Kanishka successfully presented the project at various school and national-level platforms. The project won First Prize at multiple exhibitions, including those held at St. Joseph’s College and Canara College, and has also been shortlisted for the second round of a national-level competition.







Faculty Corner

NPTEL

- Dr. Aveen K. P. successfully completed Computer Aided Manufacturing offered by IIT Kanpur.
- Mrs. Manasa A. Shetty successfully completed Introduction to Internet of Things offered by IIT Kharagpur.
- Dr. Adithya Hegde successfully completed the NPTEL course Artificial Intelligence and Machine Learning in Materials Engineering offered by IIT Kanpur

Research Publications

- Dr. Ramalingam H M published a book chapter titled "TinyML-powered pothole detection on edge devices: Optimizing speed, memory, and accuracy " in Innovations in Computer Vision, Communication Systems, and Computational Intelligence, CRC Press, November 2025.
- Dr. Ramalingam H M published a book chapter titled "Implement door unlocking by using an RFID enabled ATM card system" in A study on net- generation materials and devices, CRC Press, September 2025.
- Dr. Aveen K. P. published the paper "The Role of Experiential Learning in Improving Academic Performance and Student Satisfaction in Engineering Education" in Discover Education, Vol. 4(1), 2025.
- Dr. Aveen K. P. published "Optimisation of Drilling Parameters to Minimize Delamination in CNT-Filled GFRP Composites Using Machine Learning" in Applications in Engineering Science, 2025.
- Dr. Aveen K. P. published "Mechanical Characterization of Filaments Developed from Recycled and Virgin Plastics" in Smart Materials and Manufacturing Technologies for Sustainable Development, 2026.
- Dr. Adithya Hegde published "Deep Learning-Driven Optimization and Predictive Modelling of LASER Beam Machining for XG3 Steel" in Scientific Reports, 2025.
- Dr. Adithya Hegde contributed to "Multi-Response Optimization of Thermal Conductivity and Rheological Behavior in Nanoparticle-Enhanced Vegetable Oil Emulsions" published in Journal of Composites Science, Vol. 10(2), 2026.

Professional Body Membership

All faculty members are lifetime members of the Robotics Society, and all students have also obtained membership. This enables them to access technical resources, participate in workshops, competitions, and professional networking activities, thereby enhancing their knowledge and skills in robotics and allied technologies.

The Place We Never Look

There is an interesting story that conveys a profound message about human nature and self-discovery. It is said that after creating the world, God decided to stay among His creation for a while. Soon, He realized that living among humans was not as peaceful as He had imagined. Every day, people approached Him with endless requests, complaints, and demands.

One group of people, the farmers, prayed for rain because their crops were drying up due to a lack of water. Shortly after they left, another group arrived with a completely opposite request. These were potters who had made many clay pots and needed dry weather to prevent their products from being damaged by rain. God found Himself in a difficult situation. Fulfilling one group's wish meant disappointing another. The conflicting desires of people created endless confusion.

Unable to satisfy everyone, God called together His advisors and asked for a solution. Many suggestions were offered. Some advised Him to move to the Moon, while others suggested distant stars and galaxies. However, God pointed out that human beings are curious and ambitious; sooner or later, they would reach those places as well.

Finally, an old wise man proposed a unique solution. He suggested that God hide in the one place humans rarely think to search themselves. According to the wise man, people constantly look outside for happiness, success, peace, and answers, while overlooking the immense potential and wisdom that already exist within them. God appreciated this idea and decided it was the perfect hiding place.

A mother once complained to her husband that their son would take money no matter where she kept it. After thinking for a while, the father said, “There is one place where he will never look. Keep the money there.” Curious, the mother asked where. The father replied, “Inside his textbook! He never opens it, so the money will be safe.” The story humorously reminds us that people often ignore the places where the most valuable things may be hidden. 😁

~Dr. Ramalingam H M

The Present Design

The CAD lab was unusually silent that evening, except for the faint hum of machines and the ticking of the wall clock. Arjun, a final-year engineering student, sat alone at his workstation, staring blankly at the scattered wires, burnt motor casing, and dismantled frame of his robotic arm. Just a day earlier, the same project his ambitious attempt to build a low-cost robotic arm to assist elderly people, he has failed miserably during the department review. In front of the faculty panel, the motor had overheated, the sensors had refused to respond, and the system had frozen completely, leaving Arjun humiliated and heartbroken. Months of hard work had seemed to collapse in a matter of minutes. He dropped his head into his hands, replaying the moment again and again. “Months of work… wasted,” he whispered to himself.

It was then that Professor Raman, his guide, walked quietly into the lab. Seeing Arjun surrounded by broken parts and silent disappointment, he understood everything without needing an explanation. “Still thinking about yesterday’s failure?” he asked gently. Arjun let out a deep sigh. “How can I not, sir? I made mistakes everywhere in the circuit design, in choosing the materials, even in the coding logic. I don’t know if I can fix all this before the final presentation.” Professor Raman didn’t respond immediately. Instead, he picked up a marker, turned to the whiteboard, and wrote: “Yesterday is history, tomorrow is a mystery, but today is a gift. That is why it is called the present.” Master Oogway. Arjun looked at the words and frowned. “How does that help an engineering project?” he asked, half frustrated, half curious. The professor pulled a chair beside him and smiled. “Engineering is not about never failing, Arjun. It is about learning from every failed design. Yesterday’s mistakes are already recorded in your lab notebook. Tomorrow’s result is uncertain. But today you still have the chance to improve the design, test the circuit again, rewrite the code, and make it better.” The words settled deeply in Arjun’s mind. That night, instead of drowning in embarrassment or worrying about the final demonstration, he focused only on what he could do in the present moment.

He replaced the overheated motor with one better suited for the load. He corrected the unstable power supply in the circuit. He recalibrated the sensors with care, rewrote the control algorithm to make the motion smoother, and tested each component one step at a time instead of rushing to complete the entire system at once. Over the next few days, the lab became his battlefield and his classroom. Every failure taught him something new; every correction felt like a small victory. Slowly, the broken prototype began to transform into a working machine. By the day of the final presentation, the robotic arm stood ready. When Arjun activated it, the arm smoothly lifted a water bottle, placed it gently on a table, and even responded to voice commands. The faculty members watched with admiration, not only because the project worked, but because Arjun explained with confidence how each failure had shaped the final design. After the presentation, Professor Raman looked at him with quiet pride and asked, “So, what did you learn?” Arjun glanced at the robotic arm, then smiled and said, “I learned that in engineering, yesterday’s mistakes are lessons, tomorrow’s success is uncertain, but today’s effort is everything. If I use the present well, I can build the future.” In that moment, Arjun understood that the true strength of an engineer lies not in avoiding failure, but in facing it, learning from it, and using every present moment to create something better.

Dr. Aveen K P

Faculty Corner

From Gurukulas to Generative AI: Shaping the Engineers of Tomorrow

A few centuries ago, a young student sat beneath the shade of a tree in a Gurukula, listening carefully as his guru shared lessons about life, knowledge, and wisdom. There were no textbooks, no computers, and certainly no instant answers. Learning happened through observation, discussion, discipline, and experience. The bond between the Guru and Shishya was not merely academic , it was a relationship built on trust, respect, and personal guidance.

As time passed, education evolved. Open courtyards gave way to classrooms, handwritten manuscripts became textbooks, and blackboards became windows to knowledge. For generations, engineering students spent long hours attending lectures, conducting experiments, solving equations, and searching through library shelves for answers. There was a special charm in that journey. Learning was not just about acquiring knowledge, it was about building confidence, friendships, and memories that lasted a lifetime.

Today, another student begins the same journey, but in a very different world. Instead of walking to a library, the student type a question into an AI assistant which can instantly provide explanations, diagrams, code, and solutions. What once took hours can now be achieved in minutes. Artificial Intelligence has transformed the way students learn, explore, and innovate.

Yet, amidst all this technological progress, an important question arises: If AI can write code, solve problems, generate designs, and answer questions, why do we still need engineers? The answer lies in what makes us human.

AI can provide answers, but it cannot replace curiosity. It can generate solutions, but it cannot replace imagination. It can analyze data, but it cannot dream of a better future. Behind every intelligent machine is a human mind that imagined it, designed it, and gave it purpose. The role of future engineers will not be to compete with AI, but to use it wisely to solve meaningful problems and create innovations that improve lives.

As the world continues to transform, students must prepare themselves not just for the jobs of today, but for the challenges of tomorrow. They must remain curious, embrace lifelong learning, adapt to emerging technologies, and develop the confidence to innovate. Most importantly, they must learn to use AI as a tool that enhances their creativity and understanding, not as a substitute for independent thinking.

The journey of education has travelled from wisdom shared beneath trees to intelligence generated by machines. The tools have changed, the classrooms have changed, and the world has changed. Yet the purpose of education remains the same -to learn, to create, and to make a meaningful difference.

As future engineers, we are not merely witnessing this transformation, we are shaping it.

"The future belongs not to those who have all the answers, but to those who never stop learning, questioning, and imagining what is possible."

~Manasa A Shetty

Editorial Message

It gives us great pleasure to present this edition of the Department of Robotics and Artificial Intelligence Magazine. This magazine showcases the enthusiasm, creativity, innovation, and technical excellence of our students through their active participation and valuable contributions.

For this edition, we received over 40 article submissions from students across various categories. The magazine features a balanced collection of technical articles, non-technical write-ups, and creative contributions, reflecting the diverse interests and talents of our students. The articles explore a wide range of contemporary topics, including Artificial Intelligence, Machine Learning, Generative AI, Robotics, coding and hackathon experiences, workshops, innovation initiatives, emerging technologies, inspirational stories, artwork, and other creative expressions. The overwhelming response from our students is a testament to the department's vibrant academic environment and its commitment to nurturing creativity alongside technical excellence.

We express our sincere gratitude to Dr. Ramalingam H. M., Head of the Department, for his constant guidance, encouragement, and unwavering support in bringing out this magazine. His visionary leadership has continually inspired us to foster a culture of learning, innovation, and creative expression within the department. We also extend our heartfelt appreciation to all the student contributors, faculty members, reviewers, and coordinators whose dedication and collaborative efforts have made this edition both meaningful and engaging. We hope this magazine serves as a source of knowledge, inspiration, and motivation for all our readers and encourages students to continue exploring new ideas and sharing their achievements in the years to come.

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