



A Report of One-Day Guest Lecture on
“AI Beyond Boundaries: The Power of Multidisciplinary Collaboration”
Organized by Department of CSE-AI&ML
on 29.10.2025



Report Submitted by: Mr. BSH. Shayeez Ahamed, Assistant Professor, Department of CSE (AI and ML)
Resource Person Details: Dr. Dipankar Roy, Professor & Dean, School of Engineering, MITS, Madanapalle
Participants: II Year CSE (AI and ML) – 143 Students
Venue: Seminar Hall - C
Mode of Conduct: Offline
Report Received on 04.11.2025.

Department of Computer Science and Engineering (AI and ML) has organized a one-day Guest Lecture on “**AI Beyond Boundaries: The Power of Multidisciplinary Collaboration**” on 29.10.2025 (10.00 AM – 12.00 PM) through offline mode

Welcome Address:

The event commenced at 10:00 AM with a warm and engaging welcome address to all by Mr. BSH. Shayeez Ahamed, Asst. Professor, Department of CSE (AI and ML), Madanapalle Institute of Technology & Science (MITS), Madanapalle. The events’ primary goal is to enlighten students about the transformative role of Artificial Intelligence in various engineering domains and to encourage them to think beyond conventional boundaries.

Keynote Address

Dr. S. Padma, Associate Professor & Head, Department of CSE (AI and ML), Madanapalle Institute of Technology & Science (MITS), Madanapalle welcomed the student with her keynote address and highlighted the importance of such initiatives in shaping students’ futures and appreciated their active participation. She emphasized that in today’s rapidly evolving technological landscape, multidisciplinary collaboration has become essential to solve real-world challenges. She further stated that such sessions serve as a valuable platform for students to gain insights into the convergence of AI with diverse fields, inspiring them to pursue innovative and impactful career paths in research, academia, and industry.

Resource Person Lecture:

The session started by Dr. Dipankar Roy, Professor & Dean, School of Engineering, MITS. In his engaging lecture, he emphasized that the future of engineering innovation lies at the intersection of multiple disciplines, with AI serving as the common catalyst for progress. His talk covered various dimensions of AI’s influence, from technological innovation to ethical considerations.

He discussed the following points in the event:

The Expanding Role of Artificial Intelligence in Engineering:



Dr. Roy explained how AI has evolved beyond computer science to become integral to every branch of engineering. Today's complex challenges—energy optimization, autonomous systems, and predictive design—demand AI-driven decision-making.

He presented examples such as AI-based traffic systems, smart grids, and fault prediction in industrial machinery, demonstrating how AI enhances productivity, sustainability, and innovation across disciplines.

The Power of Multidisciplinary Collaboration:

- Highlighting the phrase “AI Beyond Boundaries,” Dr. Roy illustrated that the success of AI-driven projects depends on collaboration among engineers, domain experts, data scientists, and researchers.
- He cited examples of AI in healthcare—where computer engineers, biomedical experts, and clinicians work together—to show that cross-domain synergy is essential for building intelligent and ethical solutions.
- He encouraged students to adopt an open and collaborative mindset to integrate their technical skills with broader interdisciplinary insights.



Case Studies and Real-World Applications:

The lecture featured case studies that demonstrated how collaboration determines the success of AI implementations:

- **Smart Agriculture:** Integration of AI with agricultural science has enabled yield forecasting, pest detection using drones, and intelligent irrigation. This success resulted from teamwork among AI specialists, mechanical engineers, and agronomists.
- **Lessons from Failures:** Certain AI projects in energy and finance sectors failed due to insufficient domain expertise, resulting in inaccurate predictions. Dr. Roy stressed that domain knowledge is not optional—it is fundamental for designing responsible AI systems.

Building Multidisciplinary Readiness:

Sir provided a roadmap for students to prepare for multidisciplinary careers:

- Strengthen foundations in programming, mathematics, and data analytics.
- Deepen understanding in core engineering subjects and identify AI applications within them.
- Engage in collaborative projects, hackathons, and internships that combine multiple disciplines.
- Develop strong communication and teamwork skills to collaborate effectively with peers from diverse technical backgrounds.

He urged students to maintain a portfolio of interdisciplinary projects, showcasing their ability to integrate theory with application.

Ethical, Social, and Governance Dimensions of AI in Engineering:

Moving beyond the technical sphere, Dr. Roy discussed the ethical responsibilities of engineers designing AI-based systems. He highlighted issues such as algorithmic fairness, data privacy, and system transparency, emphasizing that ethical engineering ensures social trust and long-term sustainability.

Examples included ensuring safety in autonomous transportation, responsible energy use in AI-enabled power systems, and fairness in AI-assisted hiring processes.



Emerging Career Pathways in AI and Multidisciplinary Engineering:

Dr. Roy concluded by identifying future career domains shaped by AI-driven multidisciplinary integration:

- **AI Systems Engineer** – developing intelligent components for engineering systems.
- **Intelligent Automation Specialist** – applying AI for process control and robotics.
- **Smart Infrastructure Analyst** – leveraging data for predictive maintenance and optimization.
- **Biomedical Data Scientist** – fusing engineering, medicine, and AI for health innovations.
- **R&D Engineer (AI & Systems Integration)** – innovating in research environments requiring hardware-software synergy.

Finally, he encouraged students to pursue advanced certifications, research programs, and global collaborations to position themselves at the forefront of future technological ecosystems.

Vote of thanks:

The session concluded at 12:00 PM with a Vote of Thanks delivered by the Department of CSE (AI and ML). The speaker was sincerely thanked for his thought-provoking insights and motivating discussion. The Department expressed gratitude to the Management, Principal, and Head of the Department for their continued encouragement and support in organizing impactful academic events.

Outcomes:

At the end of Presentation, Students will be able to

1. Students understood how Artificial Intelligence integrates with various branches of engineering through collaborative innovation.
2. Students recognized the importance of multidisciplinary teamwork, ethical responsibility, and domain expertise in AI projects.
3. Students gained awareness of emerging career opportunities at the intersection of AI and engineering.
4. Students acquired inspiration to develop technical, analytical, and interpersonal skills essential for global employability.

UN-SDG Mapping:

SDG 4 – Quality Education

SDG 8 – Decent Work and Economic Growth

SDG 9 – Industry, Innovation, and Infrastructure

SDG 17 – Partnerships for the Goals