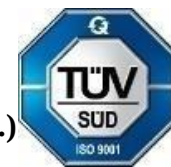




MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE (Deemed to be University)



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A Report on Alumni Guest Lecture on "Exploring Data Science Opportunities for Mechanical Engineers" Organized by Department of Mechanical Engineering in association with MITS Alumni Welfare Association & ISTE Student Chapter on 13.11.2025

MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
DEEMED TO BE UNIVERSITY
Under Section 3 of UGC Act, 1956
Madanapalle - 517325, Anamayya Dist., Andhra Pradesh, India

Alumni Guest Lecture
on
"Exploring Data Science Opportunities For Mechanical Engineers"

Organized by
Department of Mechanical Engineering
in association with MITS Alumni Welfare Association (MITS AWA) & ISTE Student chapter, MITS

Date: 13.11.2025 Time : 3:00 PM Venue : KKB-009

Resource Person
Mr. NAGABHUSHANAM
MANAGING DIRECTOR, MINDX SOLUTIONS,
BENGALURU

Chief Patron	Patron	Program Chair	Convener	Coordinator
Dr. N. Vijaya Bhaskar Choudary Founder & Chancellor	Mrs. Keerthi Nadella Executive Director	Dr. C. Yuvaraj Vice Chancellor (I/c)	Dr. S. Baskaran Assoc. Prof. & Head	Dr. Muthulakshmanan Asst. Prof. Dept. of ME

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Report Submitted by: Dr. Muthu Lakshmanan, Assistant Professor, Department of Mechanical Engineering.

Resource person Details: Mr. Nagabhushanam, Managing Director, Mindx Solutions, Bengaluru.

Venue: Room Number: KK-009 (KK BLOCK).

Number of participants: 51

Report Received on 16.11.2025.

1. Introduction

The Department of Mechanical Engineering organized an enlightening **Alumni Guest Lecture** on **13th November 2025** at the college campus. The invited speaker was **Mr. Nagabhushanam**, a distinguished alumnus currently serving as the **Managing Director of Mindx Solutions, Bengaluru**. With extensive experience in data-driven technologies, project development, and strategic engineering solutions, he brought valuable industrial perspective to the session.

The talk was arranged exclusively for **final-year Mechanical Engineering students**, focusing on the theme **"Exploring Data Science Opportunities for Mechanical Engineers."** The objective of the lecture was to guide students in understanding the growing convergence of mechanical engineering with data science, analytics, and artificial intelligence.

The session began with a warm welcome by the event coordinator, **Dr. Muthu Lakshmanan**, who introduced the speaker by highlighting his academic achievements, professional contributions, and entrepreneurial success. The event concluded with appreciation remarks by **Dr. Baskaran, Head of the Department**, along with the faculty members who acknowledged the significance of the talk.



2. Objective of the Guest Lecture

The Alumni Guest Lecture was organized to expose final-year students to the rapidly evolving interdisciplinary opportunities in **data science, analytics, AI, and digital engineering**. The objectives included:

- To highlight how **mechanical engineers can enter and excel in data science-oriented roles**.
- To explain the **step-by-step procedures** and skills needed to transition into data-driven job domains.
- To create awareness about **industry tools, software, and real-world applications** of data science in mechanical systems.
- To motivate students to adopt **future-oriented learning pathways**.
- To strengthen alumni-student relationships and bring real industry insights to the classroom.

3. Proceedings of the Event

The program began at **3.00 PM** in the main auditorium with enthusiastic participation from students and staff members.
Welcome Address and Introduction

Event coordinator **Dr. Muthu Lakshmanan** delivered the welcome address. He emphasized the department's commitment to providing industry-centric learning opportunities through alumni involvement.

He introduced **Mr. Nagabhushanam**, describing his professional journey from a Mechanical Engineering graduate to becoming the **Managing Director of Mindx Solutions**, a Bengaluru-based technology company specializing in data intelligence, analytics-driven solutions, and industrial digital transformation.

Keynote Lecture by Mr. Nagabhushanam

Mr. Nagabhushanam began the session by discussing the **changing landscape of engineering careers** and the rapid integration of data-driven technologies in all engineering domains.
His talk covered the following major areas:

a. Evolution of Data Science in Engineering

- How industries are shifting from traditional mechanical workflows to **smart, automated, and data-enabled systems**.
- Integration of IoT, AI, and predictive analytics in manufacturing, automotive, and energy sectors.

b. Opportunities for Mechanical Engineers

- Emerging roles such as
 - Data Analyst – Manufacturing
 - AI/ML Engineer for industrial solutions
 - Predictive Maintenance Analyst
 - Digital Twin Engineer
 - Simulation & Data Visualization Specialist
- Use of data science in **design optimization, process automation, quality control, and reliability engineering**.

c. Skill Requirements and Roadmap

He explained a clear, structured pathway for mechanical engineers aspiring to enter data science fields:

- Learn foundational skills: **Python, SQL, statistics, Excel, and visualization tools**.
- Explore engineering data applications: FEM data, sensor data, machining parameters, process logs.
- Understand AI/ML concepts relevant to mechanical systems.
- Build a strong portfolio through **mini-projects, internships, and online certifications**.
- Participate in hackathons, industrial case studies, and R&D projects.

d. Real-Time Industrial Case Studies

He shared examples from his company involving:

- Predictive maintenance in heavy machinery
- Energy monitoring dashboards
- AI-based defect detection in manufacturing components
- Data-driven supply chain optimization

These examples helped students understand how **mechanical engineering expertise combined with data science** opens vast professional possibilities.

4. Interactive Session

The interactive Q&A session saw students raising questions about:

- How to begin a data science career with a mechanical engineering background
- Required certifications and training platforms
- Job opportunities in core industries adopting AI
- Balancing mechanical engineering fundamentals with digital skills

Mr. Nagabhushanam provided practical insights and assured students that **mechanical engineers have strong analytical foundations** that make them excellent candidates for data-driven roles.

5. Key Takeaways

The session left a meaningful impact on final-year students. The major takeaways included:

- The future of mechanical engineering is **deeply connected with data science and digital technologies**.
- Mechanical engineers possess analytical thinking, logical reasoning, and system understanding, making them apt for data careers.
- Students should learn essential tools like **Python, SQL, Power BI, TensorFlow, MATLAB, and simulation software** to stay competitive.
- Continuous learning and building technical portfolios are essential for career growth.
- Industries increasingly demand engineers who can blend **mechanical expertise with data analytics**.
- Confidence, adaptability, and problem-solving skills are critical in data-driven workplaces.

6. Conclusion

The Alumni Guest Lecture by **Mr. Nagabhushanam** was highly inspiring and informative for final-year Mechanical Engineering students. His insights bridged the gap between mechanical engineering and emerging digital technologies, providing students with a clear roadmap toward future-ready careers.

The session successfully motivated students to explore opportunities in **data science, AI, machine learning, and digital manufacturing**, making them aware of the skills and mindset needed to thrive in a competitive technological world.

The **Department of Mechanical Engineering** expresses its sincere gratitude to **Mr. Nagabhushanam** for his contribution and to **Dr. Muthu Lakshmanan**, the coordinator, and **Dr. Baskaran**, Head of the Department, for supporting and facilitating the event.

The event concluded with renewed enthusiasm among students, eager to build their skillset and pursue modern, data-enabled engineering career paths.