

**A Report on Webinar on
“Machine Learning for Mechanical Engineers”
Organized by Department of Mechanical Engineering
15.11.2023**



MADANAPALLE INSTITUTE OF TECHNOLOGY AND SCIENCE
(UGC - AUTONOMOUS INSTITUTION)
Madanapalle-517325, Annamayya District, Andhra Pradesh

DEPARTMENT OF MECHANICAL ENGINEERING
Organizes

A WEBINAR on
MACHINE LEARNING FOR MECHANICAL ENGINEERS

Resource Person
DR. GOPIRAJAN PV
ASSISTANT PROFESSOR, DEPARTMENT OF COMPUTATIONAL INTELLIGENCE,
SRM INSTITUTE OF SCIENCE & TECHNOLOGY - CHENNAI

Date: 15.11.2023 Time: 2.00 - 4.30 PM Venue: Seminar Hall 'A'

Chief Patron Dr. N. Vijaya Bhaskar Choudary, Ph.D., Secretary & Correspondent	Patron Mrs. Keerthi Nadella Executive Director	Chief Convener Dr. C. Yuvaraj Principal	Convener Dr. S. Baskaran Head, ME	Coordinator Mr. G. Kumar Dr. D. Arun Kumar Assistant Professor, ME
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Submitted by: Mr. G. Kumar., Assistant Professor, Dept. of ME, MITs

Coordinated by: Mr. G. Kumar, Assistant Professor, Dept. of ME. & Dr. D. Arun Kumar, Assistant Professor, Dept. of ME.

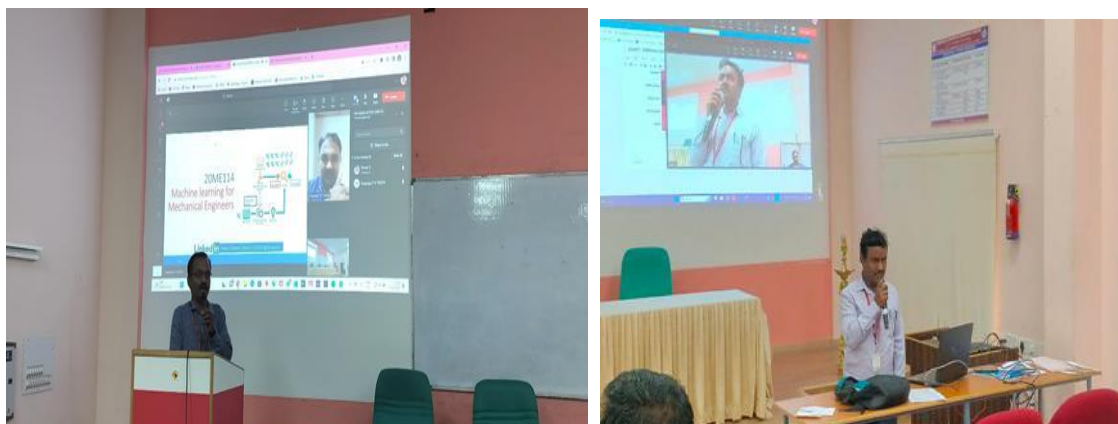
Resource Person: Dr. Gopirajan. P. V, Assistant Professor, Department of Computational Intelligence, SRM Institute of Science and Technology, Chennai, TamilNadu.

Mode of Conduct : Online

Attendance: 97 Participants

Time: 02:00-4.30 PM

Venue: Seminar Hall – A



The event commenced at 02:00 PM, opened with a greeting to all attendees by **Mr.G. Kumar** Assistant Professor of Mechanical Engineering at MITs, Madanapalle. Later **Dr. S. Baskaran**, the Head of the Mechanical Engineering Department at MITs, Madanapalle addressed the gathering.

Dr. D. Arun kumar provided a concise introduction of the resource person. Following this, the session was handed over to resource person **Dr. Gopirajan.P. V**, Assistant Professor, Department of Computational Intelligence, SRM Institute of Science and Technology, Chennai.

Dr. Gopirajan.P. V initiated his talk by expressing his deep gratitude to the students, the organizing team, department head, principal, and the management of MITs, Madanapalle for the chance to impart his expertise on " **Machine Learning for Mechanical Engineers.**" Throughout his online presentation, **Dr. Gopirajan.P. V** delivered several important aspects of Machine learning in the field of mechanical engineering.



The following topics were discussed in the session

- **Data, Classification of Data**
Time Series Data, Cross Sectional Data, Pooled Data, Panel Data
- **Exploratory data analysis**
- **Understanding the variables**
Numerical Variable
Categorical Variable
- **Machine learning**

Types of Machine learning

Supervised learning

Unsupervised learning

Reinforcement

key areas where machine learning can be applied in mechanical engineering:

1. Predictive Maintenance:
2. Quality Control:
3. Supply Chain Optimization:
4. Robotics and Automation:
5. Design Optimization:
6. Energy Management:
7. Simulation and Modeling:
8. Fault Detection and Diagnosis:
9. Human-Machine Interaction:
10. Material Science and Properties:
11. Smart Manufacturing:
12. Simulation-Based Design Optimization:

Vote of Thanks:

The session was concluded at 4.30 PM with question and answer followed by a vote of thanks by Coordinator of the webinar, **Mr. G. Kumar.**