A One-Week National Workshop
(Online Mode)
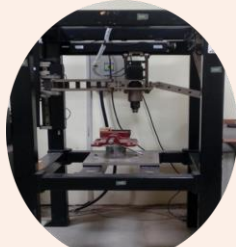## On
Smart Robotics & AI for Industry 4.0: Transforming Automation and Manufacturing

27th - 31st January 2025

2-DOF PKM

3-DOF PKM

6-DOF ROBOT

4-DOF ROBOT

Organized by
DEPARTMENT OF MECHANICAL ENGINEERING
GAYATRI VIDYA PARISHAD
COLLEGE OF ENGINEERING
(Autonomous)
Approved by AICTE & Affiliated to Andhra University, Visakhapatnam from 2022-23
Accredited by NAAC at A++ Grade
for 7 years in the 3rd cycle
www. gvpce.ac.in

ABOUT GVP COLLEGE OF ENGINEERING

Gayatri Vidya Parishad College of Engineering (GVPCE) was established in 1996 by Gayatri Vidya Parishad, a premier educational trust, to promote technical education. The GVPCE(A) offers 10 B.Tech., 5 M.Tech programs and MCA with an annual intake of 1260. The college is accredited by NAAC with 'A+ +' Grade. The institute received funds of Rs. 5 Crores under Technical Education Quality Improvement Program (TEQIP), S.C-1.2 by MHRD, Government of India. The Department of Science & Technology, New Delhi, sanctioned the Scientific & Industrial Research Centre (SIRC) to support the research activities. The college was granted autonomy by UGC in 2009. The college adopted Outcome Based Education methodology for all programmes from the academic year 2013-14. The college received Rs. 12 Crores from funding organizations DST / NBHM / ARB / AICTE etc. towards 45 R&D projects. Research and Consultancy projects, dedicated faculty, well equipped laboratories, good infrastructure and meritorious students are the major strengths of the Institution. The institute encourages collaborative learning between industry and academia as a means of reinforcing its curriculum with practical and real world experiences.

ABOUT THE DEPARTMENT

The Department of Mechanical Engineering has been functioning since the inception of Gayatri Vidya Parishad College of Engineering in 1996, with an initial intake of 60 students, which has now increased to 120. The department boasts a team of highly qualified faculty members, many of whom hold Ph.D.s from prestigious institutes such as IITs, NITs, and universities in India & abroad. In 2020, the department launched a B. Tech Mechanical Engg. (Robotics) program with an intake of 60 students. Additionally, it offers an M. Tech program in CAD/CAM with an intake of 12. The department has secured several R&D and consultancy projects worth ₹240 lakhs and has published 246 papers in reputed national and international journals and conferences. It holds 14 patents, with 7 granted, 4 published, and 3 filed. Several faculty- authored books have been published by reputed publishers across the country. The department has been accredited by NBA five times. The department also houses a Centre for Machinery Condition Monitoring, providing solutions to high- vibration problems. Additionally, it is well-equipped with CNC machining and Advanced Robotics laboratories. Towards skill development, the department has collaborated with APSSDC t-SDI, SIEMENS, and Dassault labs with a total worth ₹2 crores.

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President, Gayatri Vidya Parishad

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ABOUT THE WORKSHOP

This online workshop delves into the transformative role of Robotics and Artificial Intelligence (AI) in shaping Industry 4.0, where smart technologies are redefining automation and manufacturing processes. With the advent of interconnected systems and intelligent factories, robotics and AI are driving innovations that enhance efficiency, precision, and adaptability in industrial operations. Participants will explore how these technologies are enabling advancements such as autonomous systems, predictive maintenance, real-time decision-making, and human-robot collaboration. The focus will be on leveraging AI and robotics to optimize resources, improve quality control, and ensure workplace safety in a rapidly evolving industrial landscape. Delivered in a convenient virtual format, this workshop combines interactive live sessions, engaging demonstrations, and in-depth case studies to provide a comprehensive understanding of smart robotics and AI. Attendees will gain actionable insights into how these technologies can be effectively implemented in automation and manufacturing, empowering them to stay ahead in the era of Industry 4.0.

RESOURCE PERSONS

- ❖ **Dr. Sreekumar M**, Professor,
  Dept. of ME, IIITDM, Kancheepuram
- ❖ **Dr. Santhakumar Mohan**, Professor,
  Dept. of ME, IIT Palakkad
- ❖ **Dr. Amit Shukla**, Asst. Professor,
  Dept. of ME, IIT Mandi
- ❖ **Dr. Mohammad Farukh Hashmi**, Asst. Professor,
  Dept. of ECE, NIT Warangal
- ❖ **Dr. B.Vaidyanathan**, Technical Director,
  Interface Design Associates Pvt. Ltd.
- ❖ **Dr. P. Vivekananda Shanmuganathan**, Professor,
  Dept. of ME, SRM University AP
- ❖ **Dr. Anup Nandy**, Associate Professor,
  Dept. of CSE, NIT Rourkela
- ❖ **Dr. Yogesh Singh,** Asst. Professor,
  Dept. of ME, NIT Silchar
- ❖ **Dr. Rajeevlochana G Ch,** Asst. Professor,
  Dept. of ME, Amrita Vishwa Vidyapeetham Bengaluru.
- ❖ **Dr. Sanjay K Darwekar**, Assoc. Professor,
  Dept. of ME, GVPCOE(A)
- ❖ **Sri. Giridhar Patnaik**, Dreambot Pvt.Ltd, aHub, AU

TOPICS

- Introduction to Industry 4.0 and Smart Robotics
- Fundamentals of Robotics in Industrial automation
- Artificial Intelligence in Robotics: Concepts and Applications
- Machine Learning for Robotic Decision-Making
- Computer Vision and Perception in Robotics
- Real-Time Data Analytics and Predictive Maintenance
- Future Trends: Autonomous Systems and Ethical AI in Robotics
- Designing Autonomous Mobile Robots for Smart Manufacturing
- Building Intelligent Robotic Systems with Reinforcement Learning
- 3D Printing and Additive Manufacturing in Robotic Applications

NOTE:
Timings of sessions: 1:30 PM to 2:45 PM
                        3:15 PM to 4:30 PM

LEARNING OBJECTIVES

- Understand the Role of Robotics and AI in Industry 4.0
- Explore Key Applications of Robotics and AI
- Analyze Real-World Case Studies and Solutions
- Develop Strategies for Integration and Implementation
- Leverage Online Tools for Collaboration and Learning

WHO CAN ATTEND

- Students, Research Scholars, Teaching Faculty, Industry personnel

REGISTRATION FEE

- For Industry Persons   - Rs. 500/-
- For Faculty   - Rs. 300/-
- For Research Scholars & PG Students - Rs. 200/-
- For UG Students   - Rs. 100/-

NOTE:
- The number of participants is limited to 200.
- Last date for registration: January 20, 2025.
- E-certificates will be issued to participants at the end of the program.

REGISTRATION LINK

https://docs.google.com/forms/d/e/1FAIpQLSdtl-SBxCogQCVRdf7DIkZmsgsD8ZT9AyI3QZma81eD-ntyOw/viewform?usp=sf_link

PAYMENT DETAILS:

Name of the Account holder:
HOD Mechanical Engg. Dept. GVPCEA
Account Number:
191912010000245
Name of the Bank:
Union Bank
IFSC code:
UBIN0819191

CONTACT DETAILS

Dr. K V Vara Lakshmi   ☏ 8074508812
Sri. V S Siddharth   ☏ 9003597439
✉ smartrobotics@gvpce.ac.in