

# One Week STTP on “Fundamentals of AI and Robotics: Theory and Practice”

26-30 Dec. 2024

Physical Mode



Organized by

Centre for AI, IoT, and Robotics  
Department of Mechanical Engineering  
Indian Institute of Information Technology, Design and  
Manufacturing, Kancheepuram, Chennai – 600127

Key Facilitators / Coordinators



Prof. Sreekumar M  
Dept. of Mechanical  
Engineering



Dr. Umarani J  
Dept. of Computer Science  
& Engineering

Important Dates

Payment of Fee & Registration (Online):

Begin - End : 01/09/2024 - 30/11/2024

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## ABOUT THE INSTITUTE

Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram (IIITDM Kancheepuram) is an Institute of National Importance established in 2007 by the Ministry of Education, Government of India, to pursue design and manufacturing-oriented engineering education and research and to promote competitive advantage of Indian products in global markets. The institute is presently offering various B.Tech programs in Computer Science and Engg., Electronics and Communication Engg., Mechanical Engg., and Smart Manufacturing, M.Tech & DD programs, and inter-disciplinary Ph.D programs in core and applied areas of engineering. In addition, a new DD program in B.Tech Mechanical Engineering and M.Tech in “AI and Robotics” is launched from the current AY 2024-25.

## ABOUT THE CENTRE

The **Centre for AI, IoT, and Robotics** was established by the Institute and inaugurated by the Hon'ble Finance Minister of India, Smt. Nirmala Sitharaman on 10<sup>th</sup> Sep. 2022. The vision of this interdisciplinary Centre is to enhance the skill sets of researchers, engineers, students and faculties in AI, Robotics & Automation, IoT, and allied areas. The Centre supports various GoI schemes such as Skill India, Make in India, Digital India, Start-up India, Smart City Scheme, and NEP2020.

## REGISTRATION\*

Category	Amount (Rs.) #
a) UG/PG Students & Ph.D. Scholars	3,000
b) Faculty/Academic Staff	5,000
c) Participants from Industry/R&D Organization	8,000

# GST 18 % Extra

## ABOUT THE STTP

The curricula of various engineering programs at many universities in India are being updated to meet the challenging demands of industry and society, especially in emerging areas such as Robotics, Drones, AI, Data science, etc. To meet such demands, the faculties/researchers have to continuously upgrade their skills and knowledge which would ultimately support the students to learn and nurture a productive culture. Hence, this STTP aims to upskill the fundamental knowledge required to learn, understand, and teach AI and robotics. *This is an intensive learning program with black board and hands on sessions.*

## TOPICS TO BE COVERED (Theory & Practice)

- ❖ Introduction to AI
- ❖ Pattern Recognition and Applications
- ❖ Linear & Non-Linear Classifier
- ❖ History and Evolution of Mechanisms & Machines
- ❖ Design with Degree of Freedom
- ❖ Analysis vs Synthesis
- ❖ Kinematics of Planer and Special Mechanisms
- ❖ DH Kinematics (Forward & Inverse)
- ❖ Jacobian and Differential Motion
- ❖ Trajectory Analysis & Path Planning
- ❖ Mobile Robot Kinematics
- ❖ Robot Simulation with Hands on Practice Sessions
- ❖ Review of Current Developments and Future Requirements

## WHO CAN ATTEND

- Faculties from technical institutions
- Research scholars / PG & UG students
- Scientists/Professionals from R&D institutions/industries

\* ➤ Applicants are requested to pay the registration fee using <https://www.onlinesbi.sbi/sbicollect/icollecthome.htm?corpID=634626> [Payment Category “AI and Robotics”] and please pay as per the category. Then, submit the online registration form along with payment proof using the following link: <https://forms.gle/MkkeAvsrJbSphNCN9>.

➤ Registration fee includes a registration kit, lunch and refreshments on all five days, special dinner on one day, and participation certificates (scanned copy by email and hard copy in person or by speed post).

➤ Student hostel facilities could be provided on demand, subject to availability and on payment basis.

➤ For further updates, please visit [www.iiitdm.ac.in](http://www.iiitdm.ac.in)



Payment  
Link



Registration  
Form