

Informatics Institute of Technology  
IEEE Student Branch



A Student Chapter of the IEEE Robotics & Automation Society

# ROBOTNEXUS 2

WORKSHOP 1 & 2



## WHAT IS IEEE?

Institute of Electrical and Electronics Engineers (IEEE), a global tech community, is your **passport to a world of innovation**. IEEE empowers innovators through its influential publications, technical standards, professional development programs, and endless opportunities to shape the future.



## IEEE RAS IN IIT

The IEEE Robotics and Automation Society (RAS) at IIT, established in 2023, is a vibrant community dedicated to fostering innovation and learning in robotics and automation among undergraduates. Through hands-on workshops, webinars, and competitions, the society provides a platform for students to gain practical experience, showcase their talents, and turn creative ideas into reality.

With a focus on mentorship, collaboration, and skill development, IEEE RAS at IIT empowers students to *explore and excel in the dynamic fields of robotics and automation.*



## OBJECTIVES AND ACHIEVEMENTS

Our aim is to *inspire creativity and innovation in robotics and automation* by offering hands-on learning experiences through workshops, webinars, and competitions. We strive to help members turn their ideas into practical solutions while fostering collaboration, technical skills, and awareness of new technologies like IoT and AI.

In 2024, we proudly received the **Emerging Chapter Award** at the **IEEE Sri Lanka Section Awards** and earned a nomination for the **Best Technical Project** for **Micromaze**. Additionally, we were honoured with an award at the **IIT Excellence Awards**.



## RECAP OF ROBOTNEXUS 1

RobotNexus 1 was a **dynamic inter-university workshop series** designed to introduce students to the world of Robotics and IoT. The program started with an online session covering robotics fundamentals, followed by three hands-on in-person workshops. Participants explored Arduino programming, sensor integration, and micromouse construction. By the end, they were equipped with the skills to compete in the MicroMaze competition.



## WHAT IS ROBOTNEXUS 2?

**RobotNexus 2** is an exclusive robotics and IoT workshop for IIT students. The event includes one online and three in-person sessions, covering **robotics principles, IoT components, maze design, programming, and sensor technologies**. Participants will gain practical skills to build a micromouse and excel in robotics challenges.



## BENEFITS OF PARTICIPATION

- Gain hands-on experience in robotics and IoT with expert guidance.
- Apply theoretical concepts to create innovative, real-world projects.
- Keep up with the latest trends and advancements in robotics and automation.
- Connect with like-minded peers, inspiring faculty, and leading industry professionals.
- Explore cutting-edge technologies like Arduino, IoT components, and sensors.
- Build, program, and present your own micromouse robot in a competitive environment.



# EVENT STRUCTURE

## DAY 01

### INTRODUCTION TO ROBOTIC CONCEPTS

Begin with the fundamentals of robotics, exploring key concepts such as sensor types, motor mechanisms, and programming basics. Develop an understanding of how hardware and software work together to create intelligent robotic systems.

## DAY 02

### CIRCUIT BUILDING AND ARDUINO FUNDAMENTALS

Learn to build circuits and integrate hardware with Arduino. Gain practical experience in configuring sensors, motors, and other components, ensuring seamless communication between hardware and software.





## DAY 03

### ALGORITHM DEVELOPMENT FOR WALL-FOLLOWING BEHAVIOR

Dive into algorithm design and implementation, focusing on wall-following behavior. Utilize sensor data to develop and refine navigation strategies for the micromouse robot.

## DAY 04

### FINAL DEBUGGING AND MAZE TESTING

Put your skills to the test by debugging and fine-tuning your robot. Navigate a specially designed maze, optimizing performance and accuracy to compete in a realistic robotics challenge.

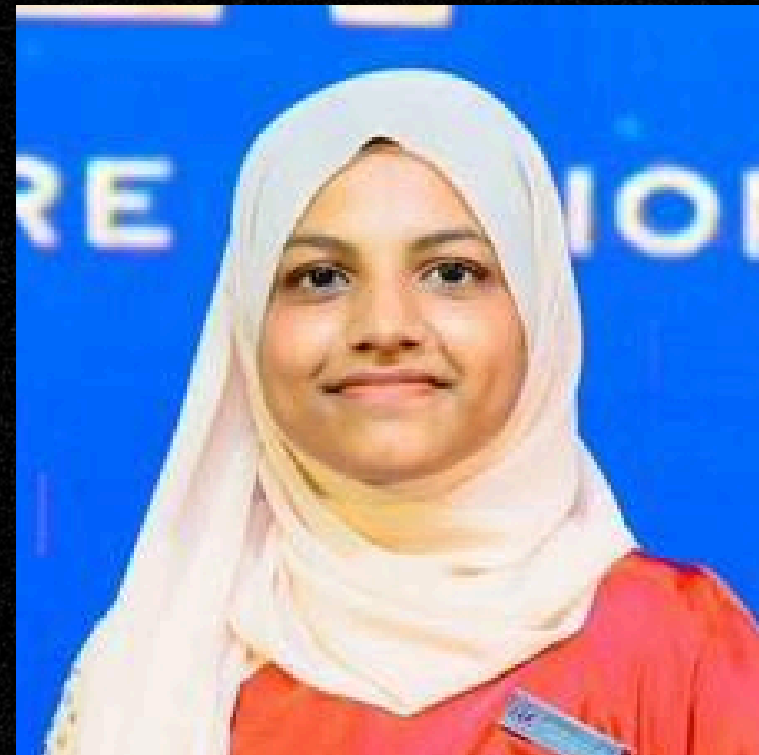
Registrations for **RobotNexus 2 - Workshop 1 & 2** Are Now Open!

[🔗 REGISTER FOR WORKSHOP 1 & 2](#)

*Lay the groundwork by diving into the core concepts of robotics and get hands-on with wiring and circuit building to bring your ideas to life.*



## CONTACT US



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*Where Circuits Connect*

# ROBOTNEXUS 2

