

CENTRE FOR INDUSTRIAL ROBOTICS

ABOUT

An Industrial Robotics Technology Centre is an advanced research and development facility at the forefront of industrial automation. It serves as a focal point for innovation, expertise, and collaboration in the field of robotics. Within this centre, multidisciplinary teams of engineers, scientists, and industry experts work together to push the boundaries of automation technology. Their primary objectives include designing and optimizing industrial robots, developing cutting-edge algorithms for enhanced robotic control, and creating novel applications for automation in various industries. The TC also plays a pivotal role in training the next generation of robotics professionals, offering specialized courses and hands-on experiences to students and industry professionals alike. Moreover, it serves as a test bed for industry-specific robotic solutions, allowing companies to explore and adopt the latest automation technologies to improve efficiency, reduce costs, and enhance product quality. In essence, an Industrial Robotics TC is a nucleus of innovation and knowledge dissemination, accelerating the adoption of robotics and automation across industries and driving economic growth through technological advancements.

OBJECTIVE

- Develop hands-on proficiency in designing, programming, and troubleshooting industrial robots to meet industry standards and demands
- Engage in cutting-edge research projects to advance the field of industrial robotics, contributing to innovation and problem-solving
- Foster teamwork and collaboration with experts from diverse fields to gain a holistic understanding of robotics applications and solutions
- Gain practical experience by applying robotics technology to solve real industry challenges, preparing for future career opportunities
- Contribute to knowledge dissemination by sharing findings, insights, and solutions with peers, instructors, and industry professionals, fostering continuous learning and growth in the robotics domain

COURSES

- Basic Level- 45 Hours
- Advanced Level-45 Hours

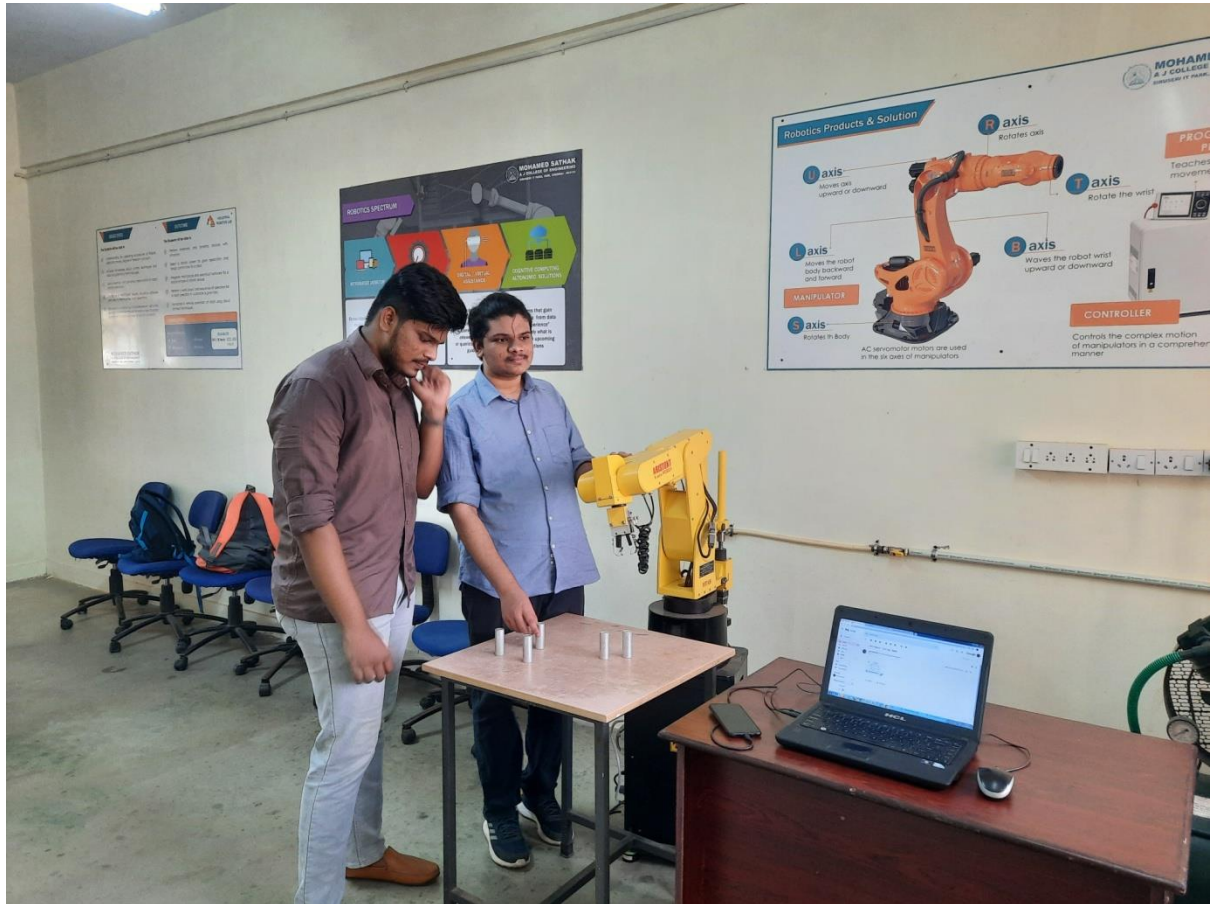
CENTRE HEAD

Dr.A Saravanan PhD Associate Professor/Mech

OUTCOME

- Students will gain a deep understanding of industrial robotics systems, including their design, programming, and operation, making them proficient in working with cutting-edge automation technologies
- Graduates will have had ample opportunities for practical, hands-on experience with industrial robots, allowing them to confidently apply their knowledge in real-world scenarios

- The program equips students with interdisciplinary skills, enabling them to collaborate effectively with professionals from various fields such as mechanical engineering, electrical engineering, and computer science.
- Graduates will have honed their problem-solving skills, particularly in the context of troubleshooting and optimizing robotic systems, making them valuable assets in industry settings





OBJECTIVES


The Students will be able to

- ✓ Understanding the operating procedures of Robots, operation ranges, degree of freedom concepts.
- ✓ Acquire knowledge about control techniques and robot programming methodologies.
- ✓ Learn kinematic and dynamics mechanisms for robot precise operations.
- ✓ Familiarize in "ARISTOSIM" robotic simulation software and able to interface the robot operations.
- ✓ Experience in interfacing of suitable sensors , actuators and transmission techniques for wide range of project operations in batch and mass production projects.

OUTCOME

The Students will be able to

- ✓ Perform kinematic and dynamic analysis with simulation.
- ✓ Select a robotic system for given application and design control laws for a robot.
- ✓ Integrate mechanical and electrical hardware for a real prototype of robotic device.
- ✓ Perform a work layout and sequence of operation for a robot operation to automate a given task.
- ✓ Familiarize in remote operation of robot using cloud connect techniques.




**INDUSTRIAL
ROBOTICS LAB**

COURSES OFFERED

Industrial Robotics	
» Basic	45 hours
» Advanced	45 hours

ELIGIBILITY
B.E / B.Tech : ECE, EEE
Mech



**MOHAMED SATHAK
A J COLLEGE OF ENGINEERING**
SIRUSERI IT PARK, OMR, CHENNAI - 603103



Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)



This certificate is awarded to
DHANUSH ADITHYA S
for successfully completing the course

Robotics

with a consolidated score of **66** %

Online Assignments	22.92/25	Proctored Exam	43.5/75
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Total number of candidates certified in this course: **418**

Jul-Sep 2022
(8 week course)

Prof. Debjani Chakraborty
Coordinator, NPTEL
IIT Kharagpur



Indian Institute of Technology Kharagpur



Roll No: NPTEL22ME109S13270219

To validate the certificate



No. of credits recommended: 2 or 3

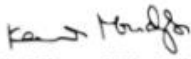


Certificate for Completion of Arduino Training

This is to certify that **MOHAMED ANSARI N** has successfully completed **Arduino** test organized at **Mohamed Sathak A.J College of Engineering** by **Vigneshwaran V** with course material provided by the Spoken Tutorial Project, IIT Bombay. Passing an online exam, conducted remotely from IIT Bombay, is a pre-requisite for completing this training.

Yamini S from **Mohamed Sathak A.J College of Engineering** invigilated this examination. This training is offered by the Spoken Tutorial Project, IIT Bombay.

October 18th 2022


Prof. Kannan M Moudgalya
IIT Bombay

Spoken Tutorial is a project at IIT Bombay, started with funding from the National Mission on Education through ICT,
Ministry of Education (previously MHRD), Govt. of India