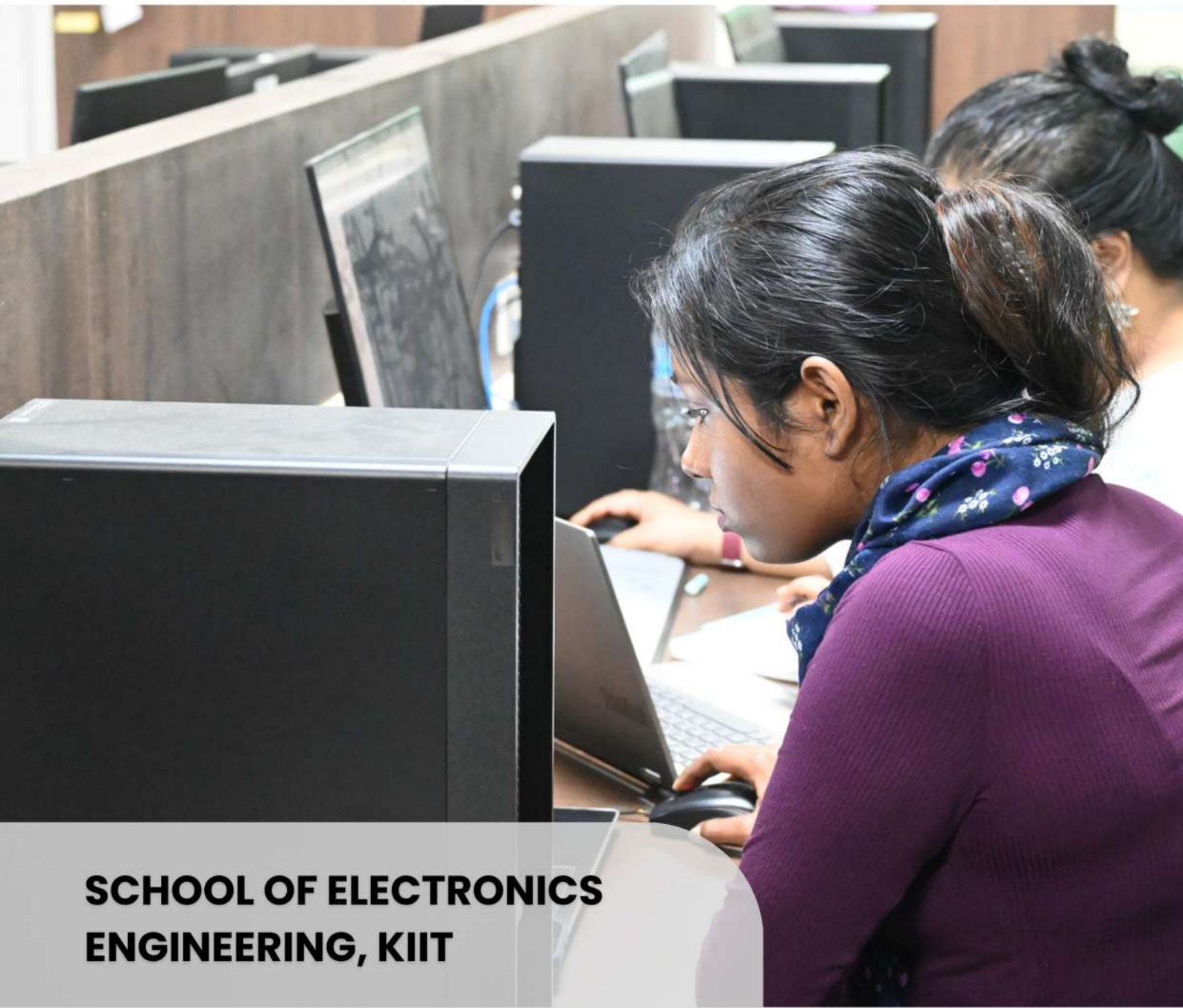
KALINGA INSTITUTE OF INDUSTRIAL TECHNOLOGY
Deemed to be University U/S 3 of the UGC Act, 1956
Established : 1997 SCHOOL OF ELECTRONICS ENGINEERING

SUMMER TRAINING 2025



SCHOOL OF ELECTRONICS ENGINEERING, KIIT

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Rapid Prototyping for IoT:
An Immersive Workshop
with single board

Course Objective

To equip students with a comprehensive understanding of IoT device development through hands-on training in sensor and actuator interfacing, single-board computers like Raspberry Pi and Rugged Board, and cloud-based data communication, enabling them to design and prototype functional IoT systems.

Course Outcome

CO1

Understand the fundamentals of IoT architecture, including sensors, actuators, development boards, and network protocols.

CO2

Apply IoT platform design methodologies using Raspberry Pi and Rugged Board for rapid prototyping of real-world applications.

CO3

Demonstrate the ability to interface hardware components and implement data communication over cloud and local networks using practical programming skills.

Module Descriptor for the Course

Module - I

- IoT & IoE, its applications
- Sensors
- Actuators
- Networks
- Development boards

Module - II

- IoT design templates
- IoT Platform design I
- IoT Platform design II
- Case Studies/Use Cases
- Raspberry Pi Fundamentals

Module - III

- Installing OS on Raspberry Pi 4
- SSH fundamentals and access to Rpi/Linux commands/configuration
- Interfacing sensors
- Interfacing actuators
- Sending and receiving data in LAN using sockets
- Sending and receiving data to cloud

Module - IV

- Microchip SOM
- Rugged Board fundamentals
- MRAA and UPM
- Interfacing sensors and actuators
- Sending and receiving data in LAN using socketsSending and receiving data to cloud

Section	Details
Course Duration (Hrs)	40 + Project (20)
Course Fee	KIIT Affiliation: Rs. 4000/- Other Affiliation: Rs. 5000/- (No Fooding & Lodging)
Teaching Learning Mode	Hybrid Mode
Course Instructors	Dr. Deepak Kumar Rout
Course Evaluation	Continuous Evaluation using Python coding
Course Certificate	After successful completion of the course

Contact Us

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