Proposal for Short Term Training

On

Rapid Prototyping for IoT: An Immersive Workshop with single board computers.

Date of commencement: 20th June 2024

This course delves into the methodology of Internet of Things (IoT) device development. You'll gain a strong foundation in single-board computers, their interaction with various sensors and actuators, and programming for cloud-based data transmission. Hands-on practical training sessions will solidify your understanding of these concepts.

Training Outcome:

Students learn IoT device development and prototyping

Duration: 4 weeks(40hr) + Project

Course Fee: Rs. 5000/-(inclusive all taxes)

Eligibility: B. TECH. 2nd Year or 3rd year

Mode: Hybrid Mode (Theory will be in online mode and hands-on in offline mode in university campus)

Week1: Internet of Things

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

Week 2: IoT Platform Design methodology

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

Week 3: Rapid Prototyping using Raspberry Pi

- Installing OS on Raspberry Pi 4

- SSH fundamentals and access to Rpi/Linux commands/configuration
- Interfacing sensors
- Interfacing actuators
- Sending and receiving data to cloud

Week 4: Rapid Prototyping using using Rugged Board

- Microchip SOM
- Rugged Board fundamentals
- MRAA and UPM
- Interfacing sensors and actuators
- Evaluation/Submission

Evaluation:

Online class participation will be evaluated through Zoom polling responses during lecture delivery. Hands-on activities in the Microchip Center of Excellence Lab will be assessed through project submissions.

Certificates will be issued to students achieving a score of more than 60%.

Instructor:

Dr. Deepak Kr. Rout

Assistant Professor,
School of Electronics Engineering,
Kalinga Institute of Industrial Technology (KIIT)-DU.