



Internet of things

Course Curriculum

Internet of things

01

Mission

The first step towards careers in the Internet of things ,Embedded systems, Cloud programming, Data Analytics and more! This program is perfect for beginner

02

Course Description

In this course students will learn about all the components of any IoT system like Sensor fusion and embedded systems for input of the systems. Cloud for the processing of input data and sending it to output system and also data analytics in order to make smart systems

03

Prerequisites

- General Requirements

You are enthusiastic and motivated to learn. Participation in this course requires consistently meeting project deadlines and active participation.

- Program-Specific Requirements

You have access to a computer with an internet connection, on which you'll install a professional code/text editor (VSCode) and Arduino IDE.

You can independently solve and describe your solution to a math or programming problem.

04

Jobs which you can apply

- IoT Engineer
- IIoT(Industrial IoT) Engineer
- Embedded Engineer
- Product design engineer
- Data Analyst

Internet of things

05

Projects

1. GitHub
2. Problem-Solving Skills on Hackerrank
3. Python Syntax & Functions
4. Command-Line
5. Project Design
6. Raspberry Pi
7. Arduino
8. Sensor Fusion
9. Node MCU
10. Cloud Programming
11. Blynk
12. Data Analytics

06

Skills you will learn

1. Tic Tac Toe Game
2. Temperature detection system
3. Movement alert system using a PIR sensor.
4. Control led/ home lights using hand gestures.
5. Internet-based Surveillance system
6. Internet-based Remote Temperature and Humidity Monitoring Station
7. A smart Temperature control system
8. Google assistant based Home automation system
9. Getting the location using Google geolocation Api

| Day | Module | Target | Learning Outcome |
|-------------|---------------------------------------|---|--|
| Day 1 & 2 | Module 1 Python Programming | -Hackerrank Problems, | Problem Solving Skills, Python Syntax Functions Command Line |
| Day 3 & 4 | | -Tic Tac Toe Games | |
| Day 5 & 6 | Module 2 Sensor Interfacing | -Temperature detection system | -Using different sensor and interfacing them with NodeMCU -Using Google API |
| Day 7 & 8 | | -Movement Alert system using PIR sensor -Geolocation system using Google API -Gesture Controlled Home Automation System | |
| Day 9 & 10 | Module 3 Raspberry Pi | Google Based Home Automation System | Initializing raspberry pi and interfacing it to different sensors. |
| Day 11 & 12 | | | |
| Day 13 & 14 | Module 4 IP Networking | Connecting Different system using different protocols | Different protocols used for IOT |
| Day 15 & 16 | Module 6 Cloud Programming | Internet based Remote Home Automation and Monitoring Station | Creating a Cloud based IOT system |
| Day 17 & 18 | | | |
| Day 19 & 20 | Module 6 Data Analytics | Smart Temperature control system | Using Data Analytics on a IOT system |



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