

Enhance human potential through life-long learning

Prerequisites:

Preferably some of experience in, business domain related business analysis, software developer and electronics background would have added advantages

Target Audience

Highly applicable for Anyone who interested to explore IOT.IT/IS Executives & Managers. Project Managers, Technology Planners. Consultants & System Integrators. IT Technical Services Specialists, IT Architects, Business Process Owners, Risk Management Employees Cloud Operations Engineers, Senior Cloud Operations Engineers, Business Data Analysts,

Learning/Delivery Method

Instructor led, group-paced, classroom-delivery learning model with structured hands-on activities.

Course Duration

3 Days

Internet of Things (IoT) with Data science

Course Description

IoT refers to the ever-growing network of physical objects that are connected to the Internet and the communication that occurs between these objects and other internet-enabled devices and systems (IoT universe)

IoT is predicted to bring more than 30 billion connected devices online by year 2023 that are collecting, sharing and acting on data between themselves. But how can organizations, technologists or businesses leverage on the significant technologies that are bringing on the much-talked about fourth industrial revolution (4IR)? Our IoT course will give you a glimpse into the future of the Internet of Things by helping students understand its potential for ground-breaking innovation, and how the technology can radically impact the lives of billions of people, and the world economy, Students will learn all about the underlying technology that powers IoT, as well as the challenges that come with the implementation of such technology

Course Objectives

1. Introduction to the core concept of IoT, role and scope of smart sensors for insuring convergence of technologies and multidisciplinary engineering practices, wireless sensor networks
2. Understand the IoT Open innovation platform, and hardware platforms and operating systems commonly used in IoT systems
3. Understand big data predictive analytics and transformation from IT to IOT
4. Gain an awareness of IT security and opportunities

Course Outline

Module 1: Introduction

Lessons

- What is IoT - In-depth explanation
- IoT Applications in different domain
- How large is the IoT Market in different domains?

Module 2: IOT Architecture

Lessons

- Architecture
- Tech Stack
- Protocols

Module 3: Sensor

Lessons

- What is Sensor & Actuator?
- What is good sensor? Sensor properties
- Types of sensors
- Sensor Demo

Module 4: IOT and Industry

Lessons

- Latest updates in the IoT industry
- Available IoT alliances details and the standards that are getting evolved
- Multiple IoT applications and solutions available in market
- Multiple IoT platform (hardware) example ARM Mbed, Intel, Free scale etc. comparison and usage
- Multiple IoT software and cloud platform, Components of a Platform, Usage, comparison. IoT eco systems build around these platforms. OSMOSIS platform and our experience about IoT platform building
- Details about your OSMOSIS IoT platform

Module 5: Communication

Lessons

- Latest updates in the IoT industry
- Available IoT alliances details und the standards that are getting evolved
- Multiple IoT applications and solutions available in market
- Multiple IoT platform (hardware) example ARM Mbed, Intel, Freescale etc comparison and usage
- Multiple IoT software and cloud platform, Components of a Platform, Usage, comparison. IoT eco systems build around these platforms.

Module 6: Clouds

Lessons

- What is cloud?
- What is cloud computing?
- Benefits of cloud
- History of cloud computing
- Deployment Models
- Top providers

Course Outline

Module 7: Web Services

Lessons

- What are Web Services?
- Why Web Services
- Types of Web Services
- RESTful web services
- Design Principles

Module 8: Introduction to Big Data and technologies

Lessons

- Cloud data storage
- Introduction to Big Data
- Big Data Definition and Characteristics
- Who is Generating Big Data

Module 9: Visual Analytics

Lessons

- Analytics
- What is Visual Analytics?
- Visual Analytic Tools for Big Data

Module 10: IOT Security

Lessons

- Design considerations and IoT Security
- How IoT Platform provide security assurance ?
- How secure is IoT?
- Key aspects for Securing IoT solutions

Module 11: IOT Hands on

Lessons

- Introduction to ESP8266 module
- Introduction to Arduino Nano
- Understanding cabling (cable wiring)
- Understanding electronic components
- Getting know on electronic devices
- LED lights example
- LCD panel example
- Sensors example
- Clouds Computing
- Signaling Devices
- Build solution with Hardware and Software

Module 12: IOT Opportunities

Lesson

- Brainstorming on opportunities and how they can be realized

Module 13: Project Demo