Internet of Things

Sunshine Learning & Technologies, experts designed this course to enable you to create amazing IOT products and solutions from scratch all the way to the market. Learn it by creating 3 IOT devices from scratch for Home Automation, Building Security and Assisted Living use cases! Our experts have moulded this course to enable and equip the audience to immediately start building IOT products. We touch all the necessary software, hardware, platform, protocols, everything in between to the point it is required. Additional study material is provided for a deep dive.

Curriculum for "Internet of Things "is as follows:

Module 1: Fundamentals of IoT Security

AN INTRODUCTION TO IOT SYSTEMS AND TECHNOLOGIES

- The Course Overview
- Case Study: Connected and Self-driving Vehicles
- Case Study: Microgrids
- Case Study: Smart City Drone Systems
- IoT Hardware and Software
- IoT Communication and Messaging Protocols
- IoT Interfaces and Services

AN INTRODUCTION TO IOT SECURITY

- Threats, Vulnerabilities and Risks
- Case Study: The Mirai Botnet Opens up Pandoraâ€™s Box
- Todayâ€™s Attack Vectors
- Current IoT Security Regulations
- Current IoT Privacy Regulations
- An Introduction to IoT Security Architectures

CONDUCTING AN IOT THREAT MODEL

- What is Threat Modeling
- Identifying Assets
- Creating a System Architecture
- Documenting Threats
- Rating Threats

DEEP DIVE ON PRIVACY

- IoT Privacy Concerns
- Privacy by Design (PbD)
- Conducting a Privacy Impact Assessment (PIA)
- Case Study: The Connected Barbie

Module 2: Security Engineering for the IoT

SECURELY DESIGNING IOT THINGS AND SYSTEMS

- The Course Overview
- Secure IoT System Design
- Security System Integration for the IoT
- Integrating Safety into the Design Process
- Processes and Agreements
- Technology Selection

CRYPTOGRAPHIC APPROACHES FOR THE IOT

- Fundamentals of Cryptography
- Cryptographic Modules
- Cryptographic Key Management
- Implementing Cryptography Within the IoT
- Case Study: New Approaches â€" Blockchain for the IoT

IDENTITY AND ACCESS MANAGEMENT FOR THE IOT

- The Device Identity Lifecycle
- In Depth: The Bootstrap Process
- Case Study: Connected Vehicles
- IAM Infrastructure
- Authorization and Access Control
- New Approaches: Applying Biometrics

SECURE CONNECTIONS TO THE CLOUD

- Introduction to Cloud Services for the IoT
- Cloud Security Architecture â€" Microsoft Azure
- Cloud Security Architecture â€" Amazon Web Services
- Cloud Security Architecture â€" IBM Watson IoT Platform