

Learn to Build Smart Home **IoT** applications

Learn to build IoT application and get hands on experience with Arduino, RaspberryPI and cloud platforms. Collect, process and analyze data for your IoT applications.

Gateway to your IoT learning starting with Smart Home IoT applications.

Contents

- Getting started with IoT
 - Introduction to IoT & Applications
 - IoT Architecture
- Data collection
 - Data collection agents/Sensors
 - Hands on developing applications with Arduino
- Data Processing
 - Data processing on Arduino/RaspberryPI
 - Creating IoT Network with Arduino & RaspberryPI
- Data Analysis & Visualization
 - Introduction to Cloud for IoT
 - Connecting to cloud
 - Posting data to cloud with HTTP & MQTT

What will you learn?

- Complete understanding on IOT Module
- Building Smart Home IoT applications with Arduino, RaspberryPI & cloud platform.
- **Build IOT application from scratch.**

Labs:

- Hands on experience with programming on Arduino, RaspberryPI
- Data generation from IoT devices in the form of (DeviceId | Timestamp | Appliance status)

Learn to Build Machine Learning solutions for real world problems

Machine Learning enables us to see beyond the obvious, discover and learn hidden trends and patterns in the data to forecast the outcome of any future event.

Contents

- Getting started with Machine Learning
 - Introduction to Machine Learning Landscape
 - How Machine Learning helps businesses
- Data Harmonization
 - Feature selection
 - Feature engineering
 - Internal Vs External data
- Data Pre-Processing
 - What type of data can be used for Machine Learning
 - Numeric Vs Factor data
 - Outliers treatment
 - Missing data treatment
- Machine Learning
 - Predictive Modelling process and Sampling Theory
 - Decision Trees
 - Random Forests
- Accuracy Measurement
 - How to measure the results of Predictive Model
 - How do we convince business that our model is working correctly
- Deployment
 - How do we deploy predictive models to production environment
 - What data do we use
 - What is the continuous validation process

What will you learn?

- Vision to identify when to use which predictive algorithm
- How to solve a given business problem using Machine Learning

Labs:

- Hands on experience with programming on R
- Machine Learning Models Random Forest, Decision Trees

Learn managing, maintaining, Securing your applications on Cloud

Learn AWS Cloud and get hands on experience with AWS Cloud and cloud services

Contents

- Getting started with Cloud computing
 - Introduction to Cloud computing
 - Cloud components
 - Why AWS and how AWS Solves many industry problems?
 - Understanding IAM in AWS
- Storage
 - S3 Storage and features
 - EBS Storage and its features
 - EFS Storage and its features
 - AWS Cloudfront
 - Hands on experience with different storages
 - Migrating storage to AWS Cloud using storage gateway
- Compute
 - EC2
 - Elastic Beanstalk
 - Elastic container services
- Database
 - Introduction to Database concepts
 - Difference between OLTP vs OLAP vs No-SQL databases
 - What is RDS and its uses
 - Redshift
 - Dynamo-DB
- Command Lines and DNS
 - Learn about AWS CLIs
 - Learn about different Python scripts to provision resources
 - Route 53

What will you learn?

- Building real-time applications on highly available and the most stable platform i.e. AWS
- Understanding about different storages, databases, etc and their use cases on different deployment scenarios, etc

Labs:

- Hands on experience with CLIs
 - Real time applications building with HA infrastructure on AWS
 - Deploying different storages, migration to Cloud
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Duration:

IOT: 2 days – 8 Hours Each

Machine Learning: 2 days – 8 Hours Each

Cloud Computing: 2 days – 8 Hours Each

Trainer Profile:

IOT:

- Nasscom registered entrepreneur for Driver Less Cars startup.
- Extensive experience of implementing IOT for Driver Less cars concept.
- Hands on experience on Python.

Machine Learning:

- Around 9 years of work experience in Predictive Analytics, Machine Learning and reporting
- Proficient in Machine Learning, Predictive Analytics, Text Mining, NLP, R-Analytics, Python, SAS, Dell Statistica, SPSS modeler, RapidMiner, ElasticSearch
- Efficient in generating dashboards and reports using Tableau, Cognos, R-Shiny, Kibana (ELK stack).

Cloud Computing:

- Around 14+ years of relevant experience and 5+ years of experience in Cloud.
- Certified professional in AWS(Associate and Professional) and Azure.
- Expertize of handling cloud operations in MNC's.