Principles of Machine Learning: Python Edition

Modality: On Demand

Duration: 48 Hours

About this course:

To run predictive models, machine learning uses systems that gain from existing information so as to estimate future outcomes, behaviors, and trends.

With the help of this course of data science, you will be provided complete details of the theory of machine learning joined hands-on experience and practical scenarios validating, building, and deploying the models of machine learning. You will figure out how to create and get experiences from these models utilizing R, and Azure Notebooks.

Course Objective:

- Principles of Model Improvement
- High-Level Data Science Process
- Data Cleaning and Preparation.
- Exploratory Data Analysis for Classification
- Unsupervised the techniques of machine learning
- Improvement of model performance
- Supervised the techniques of machine learning
- Overview of Machine Learning
- Data preparation, exploration, and cleaning
- Techniques for Improving Models
- Exploratory Data Analysis for Regression
- Dimensionality Reduction

Audience:

- Programmers
- Data Analyst

Prerequisite:

- Some experience of programming – R is preferred.
- An elementary understanding of math
- A preparedness to learn through self-paced study.

Course Outline:

Introduction to Machine Learning

- High Level Data Science Process
- Overview of Machine Learning
- Lab

Exploring Data

- Exploratory Data Analysis for Regression
- Exploratory Data Analysis for Classification
- Lab

Cleaning and Preparing Data

- Data Preparation and Cleaning
- Feature Engineering
- Lab

Getting Started with Supervised Learning

- Regression
- Classification
- Lab

Improving Model Performance

- Principles of Model Improvement
- Techniques for Improving Models
- Dimensionality Reduction
- Lab

Machine Learning Algorithms

- Introduction to Decision Trees
- Ensemble Methods
- Neural Networks
- Support Vector Machines (SVMs)
- Bayes Theorem
- Lab

Unsupervised Learning

- Clustering
- Lab

Final Exam

- Final Challenge

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