PYTHON FOR DATA SCIENCE AND MACHINE LEARNING CONTENT

Python Introduction

- 1. Introduction to the Course
- Environment Set-up and Installation

Jupyter Overview

- Jupyter Notebooks
- Other ways to create Python environments

Python Basics - Part 1

- Print Statements
- Data types (Integers , Strings , Lists , Dictionaries, Tuples)
- if,elif, else Statements
- for Loops
- while Loops
- functions
- lambda expressions
- map and filter
- methods
- Python Crash Course Exercises

Python Basics - Part 2

- Modules
- Importing modules
- Built-in methods - Arange, Linspace, Random etc

Python for Data Analysis - NumPy

- Introduction to Numpy
- Numpy Arrays
- Numpy Array Indexing
- Numpy Operation
- Numpy Exercises

Python for Data Analysis - Pandas

- Introduction to Pandas
- Series
- DataFrames - Part 1
- DataFrames - Part 2
- Missing Data
- Groupby
- Merging Joining and Concatenating

- Operations
- Data Input and Output
- Python Exercise

Python for Data Visualization - Matplotlib
- Introduction to Matplotlib
- Matplotlib Part 1
- Matplotlib Part 2
- Matplotlib Exercises

Introduction to Machine Learning
- ISLR 6th Edition PDF (Machine Learning Textbook)
- Introduction to Machine Learning
- Machine Learning with Python

Linear Regression
- Linear Regression Theory
- Linear Regression with Python - Part 1
- Linear Regression with Python - Part 2
- Linear Regression Project

Cross Validation and Bias-Variance Trade-Off
- Bias Variance Trade-Off

Logistic Regression
- Logistic Regression Theory
- Logistic Regression with Python - Part 1
- Logistic Regression with Python - Part 2
- Logistic Regression Project

K Nearest Neighbors
- KNN Theory
- KNN with Python
- KNN Project Overview

Principal Component Analysis
- Principal Component Analysis
- PCA with Python

Recommender Systems
- Recommender Systems
- Recommender Systems with Python

Natural Language Processing

- Natural Language Processing Theory
- NLP with Python - Part 1
- NLP with Python - Part 2
- NLP Project

Big Data and Spark with Python

- Welcome to the Big Data Section!0:23
- Big Data Overview
- Spark Overview
- Amazon Guide to Creating an AWS Account
- PySpark Setup
- Step by Step Guide for PySpark Set-up
- Lambda Expressions Review
- Introduction to Spark and Python
- RDD Transformations and Actions

Neural Nets and Deep Learning

- Neural Network Theory
- What is TensorFlow?
- Changes with TensorFlow
- TensorFlow Installation
- TensorFlow Basics
- MNIST with Multi-Layer Perceptron
- TensorFlow with ContribLearn
- Tensorflow Project