Data Science Course Content

# Introduction to Data Science

## Data Science applications

## Future is Machine Learning

## Installing Python & R and its IDE

# Python Tutorial for Data Science

## Variables and data types

## Data Structures in Python

## Functions and methods

## If statements

## Loops

## Python syntax essentials

## Pandas Library

## Numpy Library

# Basic Statistics

## Types of Data

## Mean, Median, Mode

## Using mean, median, and mode in Python/R

## Variation and Standard Deviation

## Probability Density Function; Probability Mass Function

## Common Data Distributions

## Percentiles and Moments

## Covariance and Correlation

## Conditional Probability

## Bayes’ Theorem

# Exploratory Data Analysis

# Data Pre-processing

## Missing Data

## Categorical Data

## Feature Scaling

## Splitting the Dataset into the Training set and Test set

# Regression

## Simple Linear Regression

## Multiple Linear Regression

## Decision Tree Regression

## Random Forest Regression

## Evaluating Regression Models Performance

# Classification

## Logistic Regression

## K-Nearest Neighbors (K-NN)

## Support Vector Machine (SVM)

## Kernel SVM

## Naive Bayes

## Decision Tree Classification

## Random Forest Classification

## Evaluating Classification Models Performance

# Clustering

## K-Means Clustering

## Hierarchical Clustering

# NLP

## Introduction

## Case Study Implementation

# Deep Learning

## Artificial Neural Network (ANN)

## Convolutional Neural Network (CNN)

# Dimensionality Reduction

## Principal Component Analysis (PCA)

## Linear Discriminant Analysis (LDA)

# Model Selection & Boosting

## Model Selection

## XGBoost