

Diving into Data Science

Course Outline

Course Prerequisites:

- Basic knowledge of linear algebra, statistics
- knowledge in **Python** programming language
- Must have to join via computer (Not mobile/tab)

Course contents:

Day 1:

- Data Science: A Birds Eye View What is Data Science?
- The history of Data Science
- Applications of Data Science Impact of Data Science in Business
- AI vs ML vs DL vs DS
- The Data Science Venn Diagram Skills needed to be a Data Scientist
- Environment Setup
 - Installing Anaconda Python Distribution
 - Jupyter Notebook (Coding Environment)
 - Introduction to Kaggle and Google Collaboratory

Day 2:

- Introduction to the Data Science Toolbox
 - Scipy [Math & Slat]
 - Numpy
 - Pandas
 - Scikit learn
 - Matplotlib, Seaborn

- Data Science Pipeline
 - Data Collection
 - Data Exploration
 - Data Preprocessing
 - Data Modeling
 - Model Validation
 - Reporting

Day 3:

- Data Exploration
 - Pandas Object Creation
 - Data Merging
 - Pie Chart
 - Line Chart
 - Scatter Plot
 - Bar Plot
 - Histogram
 - Distplot
 - Box Plot
 - Heat Map

Day 4:

- Data Preprocessing
 - Handling Missing Value
 - Handling Outlier
 - Handling imbalanced class problem
 - Capstone Project

Day 5:

- Modeling
 - What is modeling?
 - Supervised VS Unsupervised Vs Reinforcement
 - Supervised Learning Process

Day 6:

- Regression
 - Supervised Regression
 - Linear Regression Algorithm
 - How does it work?
 - A short discussion of other algorithms

Day 7:

- Classification
 - Supervised Classification
 - Logistic Regression/KNN/Naive Bayes Algorithm
 - How does it work?
 - A short discussion of other algorithms

Day 8:

- Project
 - Regression Project
 - Classification Project
 - Discussion on project showcasing
 - Farewell Discussion