Machine Learning with Python

- **Python** (6 Days)
    - Basic Data Types
        - Numerical Types
            - Integer
            - Floats
            - Complex
            - Booleans
        - Natively Implemented Arithmetic Operations
        - Containers
            - Lists
            - Sets
            - Tuples
        - String
        - Dictionaries
    - Working with Assignment Operator
    - Control Flow
        - If
        - Elif
        - Else
        - For / Range
        - While / Break / Continue
    - Advanced Iteration
    - Functions
        - Function Definition
        - Return Statement
        - Parameters

- **Numpy for Machine Learning** (2 Days)
    - Importing Conventions
    - Creating Arrays
        - 1-D Array (Dimension & Shape)
        - 2-D and 3-D Array
    - Functions for Creating Arrays
        - Evenly Spaced
        - Number by Points
    - Common Arrays
        - Zeros
        - Ones
    - Basic Data type
    - Indexing and Slicing

- **Matplot for Machine Learning** (2 Days)

    - Importing Convention
    - Simple Graph
    - Plot Function & Show Function
    - Title of Graph
    - X and Y Label
    - Adding another co-ordinate
    - Working with Legends
    - Changing colors and line width
    - Types of Plot
        - Regular Plot
        - Scatter Plot
        - Bar Plot

- **Pandas for Machine Learning** (2 Days)
    - Importing Conventions
    - Creating Series and DataFrane
    - Functions for Creating and Manipulating
        - Series
        - DataFrame
    - Importing CSV and Excel Sheets
    - Performing Operations on CSV and Excel Sheets

- **Intro to Machine Learning** (1 hr)
    - What is machine learning
    - Application of Machine Learning
    - Types of Machine Learning
    - Supervised Machine Learning
    - Unsupervised Machine Learning
    - Reinforcement Learning

- **Linear Regression Algorithm** (4 Days)
    - Understanding Theory of Algorithm
    - Math behind Algorithm
    - Practical Implementation

- **Logistic Regression Algorithm** (4 Days)`
    - Understanding Theory of Algorithm
    - Math behind Algorithm
    - Practical Implementation

- **Decision Tree Algorithm** (4 Days)
    - Understanding Theory of Algorithm
    - Math behind Algorithm
    - Practical Implementation

- **Project** (5 Days)