



# CP-ML&DS

(Machine Learning and Data Science) Foundation



## CP-ML&DS FOUNDATION PROGRAM HIGHLIGHTS

### The World of Machine Learning

(What, Types, Steps, Applications, Linear Algebra, Calculus and Statistics refresher)

### Setting up Environment for Machine Learning

(Anaconda, Python introduction, Numpy, Panda, Matplotlib, case studies and relevant exercises  
Project: Creating a jupyter notebook and apply statistics and visualization using Pandas and Matplotlib on the Boston Housing Dataset)

### Exploratory Data Analysis

(Need of Data, pre-processing of data, boxplot to visualize data, data and column relationships  
Project: Performing EDA on different Real world datasets)

### Supervised Machine Learning

(Solving a Regression problems Using scikit-learn for Machine Learning. Understanding basic concepts of linear regression, its application on a data set, Performance Metrics for linear regression model, Regularisation Techniques using Lasso Regression and Ridge Regression)

### Classification using Logistic Regression

(Understanding intuitively Logistic Regression for solving classification problems, Apply logistic regression to different datasets using scikit-learn, evaluate performance metrics for classification)

### Classification Using Decision Trees

(Understanding Decision tree technique for classification problems, Project by applying Decision Tree Techniques and comparing the performance with Logistic Regression techniques)

### Clustering

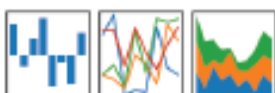
(Understanding clustering and types of clustering and using k-means clustering on real world datasets)

### NLP

(Introduction to Natural Language Processing and some useful usecases for Preprocessing and Document similarity)

## Tool Coverage

pandas  
 $My = \beta^T X_i + \mu + \epsilon_i$



NumPy

ANACONDA

python™

matplotlib

scikit learn

jupyter

