

Machine Learning Course by REGEx

Prerequisites :

This course requires an understanding of:

- Statistics
- Mathematics
- Python programming

Knowledge of these fundamental courses:

- Python for Data Science
- Math Refresher
- Statistics for Data Science

Course & Syllabus :

- Revisiting Python
- Python Libraries for ML
- What is ML? Why ML?
- Introduction to Supervised ML
- Introduction to Unsupervised ML
- Mathematical Background for ML- Matrix ops Probability Theory (Bayes' Theorem)
- Statistical knowledge for ML- Mean, Median, Mode , Z-scores, bias -variance dichotomy
- Tools required for development - Anaconda, Jupyter NB
- ML libraries Explained: Scipy, Numpy, Matplotlib
- ML Glossary- Variable types, k-fold CV, AUC ,
- F1 score,Overfitting/Underfitting, Generalization,
- Data split & hyper parameter training
- Data wrangling using Pandas
- Preprocessing data and feature engineering
- Exploratory Data analysis using Visualisation
- Scikit-learn Library for ML
- Code Exercises
- Supervised learning - Regression
- Different types of Regression-Linear and Logistic
- Decision tree Algorithms
- Real-world code exercises
- Supervised Learning- Classification
- Naive- Bayes' Classification
- KNN Classification

- Real-world code exercises
 - Clustering Introduction
 - k-means clustering
 - Code Exercises
 - Advanced topics-Curse of Dimensionality-PCA algo
 - SVM Classification Inroduction
 - Real-time mini project
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