**MACHINE LEARNING GUIDELINES**

**PYTHON:**

**Beginner:**

Introduction to Python Programming – Udacity

Or,

Introduction to Python – Kaggle Learn

**Advanced:**

Python for Developers – Jupyter Notebook Collection

**MATH:**

**Beginner:**

Linear Algebra – 3Blue1Brown

Probability and Statistics – Khan Academy (don’t get stuck with the mathematics here at Khan Academy. After covering the basics go to ML and come over it again and again)

Calculus – 3Blue1Brown

**Advanced:**

Computational Linear Algebra – Fast.ai

Multivariable Calculus – Khan Academy

**MACHINE LEARNING:**

**Beginner:**

1. Applied AI Course

Or,

1. Intro To ML – Udacity / Machine Learning A-Z – Udemy (these courses don’t go very deep into the topics)

And,

Machine Learning – Coursera (Andrew Ng)

**Advanced:**

Introduction to Machine Learning for Coders – Fast.ai

Machine Learning Kernels – Kaggle Learn (good for revising concepts)

Machine Learning Explainability – Kaggle Learn (crucial because it helps to extract human understandable insights from any Machine Learning model)

**DATA ANALYSIS:**

**Beginner:**

Data Analysis Pipeline – edX (Georgia Tech)

SQL – Kaggle Learn

Data Visualisation – Kaggle Learn

EDA Kernels – Kaggle Kernels Grandmaster SRK’s Kernels

**Make sure to learn the following for each technique:**

1. Theory with Geometric Intuition
2. Maths behind it
3. Assumptions of the Algorithm
4. Best and Worst cases
5. Interpretability
6. How to code from scratch
7. Variations of the algorithm
8. Limitations

**OTHER RESOURCES:**

It is very important to keep up with the field. So, be sure to read the blogs about ML.

**Papers:**

1. Papers with code (All latest research papers in ML with code)
2. ArXiv Sanity (Top current research papers)

**Youtube:**

1. Arxiv Insight
2. Sentdex
3. Two Minute Papers
4. Siraj Raval
5. Deep Lizard

**Some important Youtube videos:**

1. Data Science/ Machine Learning Project Life Cycle
2. How to get ML internship
3. Best general videos playlist – Siraj Raval