# Learn Machine Learning

REFERENCE MOHIT AGRAWAL

# **Python for Data Science**

	Topic Name	Link
1	Intro and variables in Python	Click Here
2	Numbers in Python	Click Here
3	String in Python	Click Here
4	<b>Conditional Statement</b>	Click Here
5	For Loop	Click Here
6	List and Boolean Variable	Click Here
7	Tuple, Dictionary, Sets	Click Here
8	Function & Arguments	Click Here
9	Lambda Function	Click Here
10	Map function	Click Here
11	Filter function	Click Here
12	Iterables and Interators	Click Here
13	<b>Exception Handling</b>	Click Here
14	Intro to OOPs	Click Here
15	OOPs Concepts	Click Here
16	List Comprehension	Click Here

### **Pandas**

	Topic Name	Link
1	Intro to Pandas	Click Here
2	DataFrame Basics	Click Here
3	DataFrame – II	Click Here
4	Read Write a CSV or Excel file	Click Here
5	Reading CSV file	Click Here
6	Dropna, fillna, interpolate	Click Here
7	Replace function	Click Here
8	Group By	Click Here
9	<b>Concept DataFrames</b>	Click Here
10	Merge DataFrames	Click Here
11	Filter function	Click Here
12	Pivot Tables	Click Here
13	<b>Exception Handling</b>	Click Here
14	Stack and Unstack	Click Here
15	Reshape Dataframe	Click Here
*	Bonus Playlist (Videos 1-30)	Click Here

## **NumPy**

	Topic Name	Link
1	Intro to Numpy	Click Here
2	<b>Basic Array Operation</b>	Click Here
3	Slicing and Indexing	Click Here
4	Inbuilt functions	Click Here
5	Numpy functions	Click Here
6	Dropna, fillna, interpolate	Click Here
7	Iterate array usind nditer	Click Here

### **Data Visualization**

( Matplotlib & Seaborn )

	Topic Name	Link
1	Intro to Matplotlib	Click Here
2	String in plot functions	Click Here
3	Axis and Labeling	Click Here
4	Plots (Video 4-6)	Click Here
5	Matplotlib plots	Click Here
6	Dropna, fillna, interpolate	Click Here
7	Intro to Seaborn	Click Here
8	Seaborn Plots	Click Here
*	Bonus	Click Here

# **Statistics**

	Topic Name	Link
1	Intro to Statistics	Click Here
2	Data Types in Statistics	Click Here
3	Population and Sampling	Click Here
4	Random Variables and types	Click Here
5	Mean, Median and Mode	Click Here
6	Variance	Click Here
7	<b>Standard Deviation</b>	Click Here
8	Normal Distribution	Click Here
9	Standardization & Normalization	Click Here
10	Z-score and IQR	Click Here
11	Pearson Correlation	Click Here
12	Spearman's Rank Correlation	Click Here
13	<b>Z-Statistics &amp; T-Statistics</b>	Click Here
14	Central limit theorem	Click Here
15	<b>Probability Density Function</b>	Click Here
16	Hypothesis testing & P-value	Click Here
17	Type 1 & Type 2 Error	Click Here
18	T-Test, Chi-Square, Anova Test	Click Here

# **Feature Selection & Engineering**

	Topic Name	Link
1	Feature Selection – I	Click Here
2	Feature Selection – II	Click Here
3	Handling Missing Values – I	Click Here
4	Handling Missing Values – II	Click Here
*	Bonus Handling Missing Values	Click Here
5	Handling Missing Values – III	Click Here
6	One Hot Encoding	Click Here
7	Handling Categorical Features	Click Here
8	Normal Distribution	Click Here
9	<b>Standardization &amp; Transformation</b>	Click Here
10	Handling Outliers – I	Click Here
11	Handling Outliers – II	Click Here
*	Bonus Handling Outliers	Click Here
12	Probability Ratio Encoding	Click Here
13	<b>Dummy vs One Hot Encoding</b>	Click Here

# Machine Learning - I

	Topic Name	Link
1	Intro to Machine Learning	Click Here
2	Linear Regression	Click Here
3	Multiple Linear Regression	Click Here
4	Ridge & Lasso Regression	Click Here
5	Multi Collinearity in LR	Click Here
6	R <sup>2</sup> Score and Adjusted R <sup>2</sup>	Click Here
*	Linear Regression Bonus	Click Here
7	Bias, Variance, Under & Overfitting	Click Here
8	Performance Matrix – I	Click Here
9	Performance Matrix – II	Click Here
10	Logistic Regression – I	Click Here
11	Logistic Regression – II	Click Here
12	Multiclass Logistic Regression	Click Here
*	<b>Logistic Regression Bonus</b>	Click Here
13	<b>Decision Tree and Random Forest</b>	Click Here
14	<b>Decision Tree</b>	Click Here
15	<b>Entropy in Decision Tree</b>	Click Here
16	<b>Gini Impurity in Decision Tree</b>	Click Here
17	Random Forest	Click Here
18	Support Vector Machine	Click Here
*	Bonus SVM	Click Here
*	Bonus Regression	Click Here
*	<b>Bonus Classification</b>	Click Here

# Machine Learning - II

	Topic Name	Link
19	K-means – I	Click Here
20	K-means – II	Click Here
21	AdaBoost	Click Here
22	Naïve Bayes – I	Click Here
23	Naïve Bayes – II	Click Here
24	Hierarchal Clustering	Click Here
25	DBSCAN	Click Here
26	PCA	Click Here
27	<b>XgBoost Classification</b>	Click Here
28	<b>Cross Validation and types</b>	Click Here
29	<b>Curse of Dimensionality</b>	Click Here
*	<b>Evaluation Matrices in ML</b>	Click Here
*	<b>Bonus Cross Validation</b>	Click Here

### **Reference and Credit**

- 1. Krish Naik
- 2. CodeBasics
- 3. AnalyticsVidhya
- 4. Dark Coder