**Statistics**

**How to Learn Statistics for Data Science (As A Self Starter)**

**1st – theory of 1 topic**

**2nd ---practical implementations of that theory topic**

**Basics Stats**

**Probability**

1. Introduction to Basic Terms
2. Variables
3. Random Variables
4. Population, Sample, Population Mean, Sample Mean
5. Population Distribution, Sample Distribution and Sampling Distribution
6. Measure Of Central Tendency (Mean, Median ,Mode)
7. Range
8. Measure Of Dispersion
9. Variance
10. Standard Deviation
11. Gaussian/Normal Distribution

**Intermediate Stats**

1. Standard Normal Distribution
2. Z score
3. Probability Density Function
4. Cumulative distribution function
5. Hypothesis Testing
6. Many different plotting graphs – histogram(PDF-probability distribution function),cdf
7. Kernel Density Estimation
8. Central Limit Theorem
9. Skewness of Data
10. Covariance
11. Pearson Correlation Coefficient
12. Spearman Rank Correlation Coefficient
13. Importance of Correlation
14. Hypothesis Testing
15. Null Hypothesis
16. Alternative Hypothesis
17. Understanding Hypothesis testing
18. (T-test,Chi square test, p values)

**Advanced Stats**

1. Q-Q plot
2. Chebyshev’s inequality
3. Discrete And Continuous Distribution
4. Bernoulli And Binomial Distribution
5. Log Normal Distribution
6. Power Law Distribution
7. Box Cox Transform
8. Poisson Distribution
9. Application Of Non Gaussian Distribution

**Study from:-**

1. statistics in machine learning :- 80% syllabus cover

<https://www.youtube.com/playlist?list=PLZoTAELRMXVMhVyr3Ri9IQ-t5QPBtxzJO>

2. feature Engineering:--all topic real time application of sats and probability

<https://www.youtube.com/watch?v=6WDFfaYtN6s&list=PLZoTAELRMXVPwYGE2PXD3x0bfKnR0cJjN>

3. complete machine learning playlist:-- some topic((ex. T-test,Chi square test, p values)

<https://www.youtube.com/watch?v=bPrmA1SEN2k&list=PLZoTAELRMXVPBTrWtJkn3wWQxZkmTXGwe>

4. Khan academy

<https://www.youtube.com/watch?v=uhxtUt_-GyM&list=PL1328115D3D8A2566>

5. online videos project files Krish Naik sir

<https://github.com/krishnaik06>