Data Science Notebooks

Introduction to DS

what is DS

- brief intro
- why DS is IMP

Anaconda

- what is conda
- why need conda
- how to install
- how to use (imp conda commands)

Jupyter

- what is jupyter
- how to run

Data Collection and Management

- Work in Progress..... (Haven't Started Yet)

Exploretory Data Analytics

Statistics

- what is statistics
- features and importance

▼ Descriptive Statistics

- Level of Measurement
  - Categorical
    - Nominal
    - Ordinal
  - Numeric
    - Metric
    - Ration Scale
    - Interval Scale
- Brief on Data Handing to get used to python libraries and jupyter-notebook
  - important commands covered :
    - read file
    - head
    - info
    - tail
    - describe
    - isnull
    - matplotlib
    - seaborn
    - drop
    - dtypes
    - groupby
    - unque
    - nunique
    - valuecounts

        - filling missing values using
            - mean
            - median
            - mode
            - ffill
            - bfill
- Visualization
    - bar plot
    - pie chart
    - box plot
    - histogram
    - density plot
    - heatmap
    - scatterplot
    - lineplot
- Distribution Analysis
    - what is population and sample
    - central tendencies
        - mean
        - median
        - mode
    - measure of dispersion
        - Range
        - variance
        - standard deviation
        - quartiles

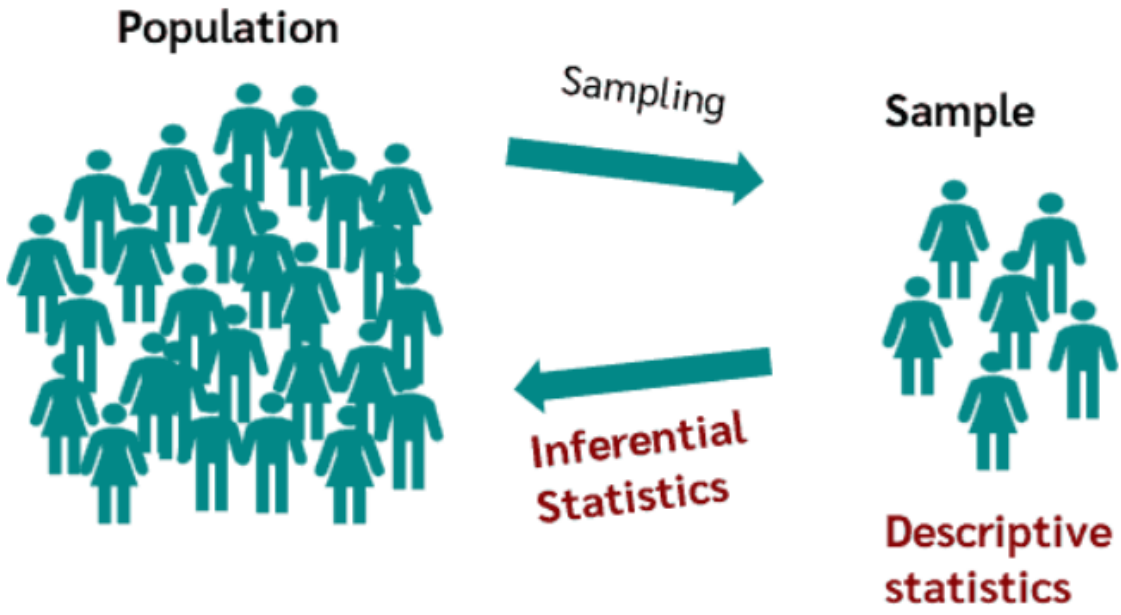
        - interquartile range
    - Distribution Types
        - Normal
        - Skewed
    - More Types
        - Discrete Distribution Types
            - Binomial
            - Possion
            - Gemoetric
            - Hypergeometric
        - Continuous Distribution Types
            - Normal
            - Exponential
            - Uniform
            - Beta
            - Gamma

▼ Inferential Statistics

- Hypothesis Testing
    - What is Hypothesis
    - Types of Hypothesis
        - Differential
        - Correlation
        - Directional and Non Directional
    - what is Hypothesis testing
        - Null Hypothesis
        - Alternate Hypothesis

    - why we Hypothesis Testing
    - What is P Value
    - Importance of Significance Level
- Z - Test
- T - Test
    - Types of T - Test :
        - one sample
        - paired
        - two sample
            - Types of Two Sample
                - One Tailed
                - Two Tailed

- Chi - Square Test
    - Chi Square Test of Independence
    - Chi Square Goodness of fit
- Anova Test
    - WIP



▼ Machine Learning

▼ What is Machine Learning

- WIP

▼ Supervised Learning

- Linear Regression
  - Linear
  - Ridge
  - Lasso
  - Elastic-Net
- Logistic Regression
- Naive Bayes
  - Gaussean - WIP
  - Multinomial - WIP
  - Bernoulli

- Scaling Data
- Support Vector Machine
  - Support Vector Classification
  - Support Vector Regression - WIP
- K Nearest Neighbour
  - KNNClassifier
  - KNNRegressor - WIP

▼ Un-Supervised Learning

- Principal Component Analysis
- K Means
- Hierarchical Clustering
  - Agglomerative
  - Divisive - WIP

▼ Bagging Classification

- Decision Tree
- Random Forest
  - Bagging
  - Boosting
  - Bootstrapping
  - Random Forest Classifier
  - Random Forest Regressor - WIP

▼ Time Series

- What is Time Series - WIP
- Preparing Data
  - Data Decomposition
  - Stationarity Check

        - Differencing for Stationarity
    - Arima
        - ACF
        - PACF
        - p , d, q
    - SARIMA
        - Seasonal ACF
        - Seasonal PACF
        - P , D , Q , S

▼ **temp1**

▼ **temp2**

▼ Deep Learning