

GENERATED NOTES FROM PDF

****DATA VISUALIZATION****

* * graphical representation of data using charts, graphs, maps, and dashboards.

* * simplifies data interpretation and analysis.

****TYPES OF DATA VISUALIZATIONS****

* * **numerical data:** continuous (e.g., temperature) or discrete (e.g., number of sales).

* * **categorical data:** binary (e.g., yes/no), nominal (e.g., colors), or ordinal (e.g., ratings).

****IMPORTANCE OF DATA VISUALIZATION****

* * identify trends and patterns.

* * provide context for data.

* * reduce analysis time.

* * communicate data insights effectively.

****MATPLOTLIB****

- * * versatile data visualization library in python.
- * * offers static, interactive, and animated visualizations.
- * * built on numpy for efficient handling of large datasets.

****ADVANTAGES OF MATPLOTLIB****

- * * integration with numpy.
- * * high-quality plots.
- * * wide adaptability.
- * * extensibility.
- * * cross-platform compatibility.
- * * interactive plots.

****DISADVANTAGES OF MATPLOTLIB****

- * * steep learning curve.
- * * verbose syntax.
- * * limited interactivity.
- * * limited 3d plotting capabilities.
- * * performance issues with large datasets.

****WAFFLE CHART****

- * * visualizes progress towards goals.
- * * each cell represents 1% of the total.
- * * used for creating visually appealing dashboards.

****WORD CLOUD****

- * * represents text data with word size indicating frequency.
- * * highlights significant textual data points.
- * * used for analyzing social media data.

****SEABORN****

- * * statistical graphing library built on matplotlib.
- * * provides beautiful default styles and color combinations.
- * * offers data-oriented apis for switching between visual representations.

****TIME SERIES DATA****

- * * sequence of data points collected at regular intervals.
- * * components: trend, seasonal, cyclic, irregular.

****TIME SERIES PREPROCESSING TECHNIQUES****

* * value handling, outlier removal, stationarity, differencing, de-trending, de-seasonalizing, exponential smoothing, etc.

****TIME SERIES ANALYSIS TECHNIQUES****

* * autocorrelation analysis, partial autocorrelation functions, trend analysis, seasonality analysis, decomposition, etc.

****AUTOCORRELATION****

* * measures the linear relationship between a time series and its lagged values.

* * positive acf indicates correlation between current and past values.

* * negative acf indicates weak or negligible correlation.

****PARTIAL AUTOCORRELATION****

* * isolates the direct correlation between a variable and its past value, controlling for intermediate lags.