Project Report: Trading Analysis

1. Introduction

This project focuses on analyzing trading data to explore patterns, trends, and relationships that impact trader performance. The objective is to apply data cleaning, exploratory data analysis (EDA), and visualization techniques to gain insights into market behavior and trader outcomes.

2. Objectives

- To preprocess and clean the given trading datasets.

- To perform exploratory data analysis to identify patterns and trends.

- To visualize important metrics for better interpretation.

- To generate insights that can help in understanding trading performance.

3. Dataset Description

- **Source**: The dataset consists of trading records and related market indicators.

- **Key Features**: Include timestamps, profit/loss (PnL), sentiment or market indicators, and other relevant attributes.

- **Size & Format**: Provided in CSV format and imported into a Jupyter Notebook for analysis.

4. Methodology

1. **Data Cleaning & Preprocessing**

   o Handling missing values.

   o Parsing dates and aligning datasets by time periods.

   o Ensuring consistency across variables.

2. **Exploratory Data Analysis (EDA)**

   o Distribution analysis of profit/loss values.

   o Comparison of performance across different market sentiment periods (e.g., Fear vs. Greed).

   o Identification of outliers and unusual trading behaviors.

3. **Visualizations**

   o Line charts for PnL trends over time.

   o Histograms for distribution of returns.

- o   Boxplots to compare performance under different conditions.

5. Key Findings

- Traders exhibit distinct performance patterns under different market sentiment conditions.

- Certain days show significantly higher or lower volatility, impacting PnL outcomes.

- Visualizations highlight the concentration of profits/losses within particular ranges.

6. Conclusion

This analysis provides valuable insights into trading behavior and performance under varying market conditions. By combining data preprocessing, visualization, and statistical summaries, the project highlights important factors that influence profitability and risk in trading.