Binance Trade Data Analysis & Account Ranking

1. Introduction

Objective: Analyze Binance trading data over 90 days to evaluate account performance.

Approach: Calculated financial metrics and ranked accounts using a weighted scoring system.

Outcome: Identified the top 20 performing accounts based on profitability, risk-adjusted returns, and efficiency.

2. Data Preprocessing & Cleaning

Dataset: Historical trade data, including timestamps, asset type, side (BUY/SELL), price, and realized profit.

Steps Taken:

- Handled missing values.

- Converted timestamps to a readable format.

- Grouped trades by Port_IDs for analysis.

3. Financial Metrics Calculated

- ROI (Return on Investment): Measures account profitability relative to investment.

- PnL (Profit and Loss): Total profit or loss over the 90-day period.

- Sharpe Ratio: Risk-adjusted return metric (higher = better performance).

- Maximum Drawdown (MDD): Measures the worst percentage drop from peak to trough.

- Win Rate: Percentage of profitable trades vs. total trades.

4. Ranking Algorithm

- Accounts were ranked using a weighted scoring system:

  - ROI: 30%

  - Sharpe Ratio: 30%

  - Win Rate: 20%

  - PnL: 10%

  - MDD (Risk): -10% (negative weight since lower values are better)

- Normalization: Metrics were scaled to ensure fair comparison.

- Final Ranking Score: Calculated based on the weighted sum of normalized metrics.

5. Conclusion

- Analysis successfully identified the top 20 performing Binance accounts.

- Ranking method provides a fair and data-driven way to assess account performance.

- Results are ready for further business decisions or investment strategies.

6. Deliverables for Submission

- Jupyter Notebook: Binance_Trade_Analysis.ipynb

- CSV with Calculated Metrics: top_20_accounts.csv

- This Report (PDF format)