BINANCE TRADE DATA ANALYSIS REPORT

Prepared by: S. Sowjanya

Email: sowjanyasilasagaram@gmail.com

Contact no: 701874719

Date: 3/2/2025

INDEX

1. TASK OVERVIEW

This project analyzes Binance trading data for 90 days. The goal is to calculate key financial metrics, rank accounts, and find the top 20 best-performing accounts.

Key Metrics Calculated:

1. ROI (Return on Investment) – Measures profit compared to investment.

2. PnL (Profit and Loss) – Total profit or loss for each account.

3. Sharpe Ratio – Risk-adjusted return measure.

4. MDD (Maximum Drawdown) – Measures biggest loss from peak value.

5. Win Rate – Percentage of profitable trades.

6. Win Positions – Number of profitable trades.

7. Total Positions – Total number of trades.

2. STEPS FOLLOWED

Step 1: Load and Clean Data

- Opened the dataset in Jupyter Notebook.
- Checked for missing values and handled them.
- Converted timestamps to readable format.

Step 2: Calculate Metrics (with Formulas)

1. Return on Investment (ROI)

    Formula:

    $$ROI = \left(\frac{\sum \text{Realized Profit}}{\sum \text{Quantity}} \right) \times 100$$

2. Profit and Loss (PnL)

Formula:

$$PnL = \sum \text{Realized Profit}$$

3. Sharpe Ratio

Formula:

$$Sharpe\ Ratio = \frac{E[R] - R_f}{\sigma_R}$$

= Expected return

= Risk-free return (assumed as 0)

= Standard deviation of returns

4. Maximum Drawdown (MDD)

Formula:

$$MDD = \frac{\max(\text{Peak Value} - \text{Trough Value})}{\max(\text{Peak Value})}$$

5. Win Rate

Formula:

$$Win\ Rate = \left(\frac{\text{Win Positions}}{\text{Total Positions}} \right) \times 100$$

6. Win Positions & Total Positions

Win Positions = Number of trades where Realized Profit > 0.
Total Positions = Total number of trades per account.

Step 3: Rank Accounts

Applied a weighted ranking system based on:

ROI (40%)

PnL (20%)

Sharpe Ratio (20%)

Win Rate (10%)

MDD (10%)

Sorted accounts and picked the top 20.

3. RESULTS

Top 20 accounts stored in Top_20_Accounts.csv.

Accounts with high ROI, stable profits, and low risk ranked the best.

4. DELIVERABLES

➢ Jupyter Notebook (Trade_Analysis.ipynb) – Contains the full code.
➢ CSV File (Top_20_Accounts.csv) – List of top 20 accounts.
➢ Report (Trade_Analysis_Report.docx) – This summary.

5. CONCLUSION

The analysis successfully identified the best-performing Binance accounts based on financial performance. The approach can be automated for real-time ranking in the future.