Data Science Assignment – Web3 Trading Team

Candidate: Afisar Alam

Project Folder: ds\_afisar\_alam

**Overview**

In this project, I explored how trader behavior is influenced by market sentiment. I used two main datasets:

Bitcoin Market Sentiment (Fear & Greed Index)

Historical Trader Data (Hyperliquid)

The analysis was done entirely in Google Colab using Python, and all charts and reports are saved in the outputs/ folder.

**Objectives**

See how different market conditions (Fear vs. Greed) affect trader behavior like profitability, risk-taking, leverage, and trade volume.

Find insights that could help improve Web3 trading strategies.

**Folder Structure**

My Drive

└── ds\_afisar\_alam

├── notebook\_1.ipynb

├── csv\_files

│ ├── fear\_greed\_index.csv

│ └── historical\_data.csv

├── outputs

│ ├── daily\_sentiment\_time\_series.png

│ ├── sentiment\_classification\_count.png

│ ├── sentiment\_30day\_moving\_avg.png

│ ├── top\_traded\_coins.png

│ ├── execution\_price\_distribution.png

│ ├── trade\_side\_distribution.png

│ ├── trade\_size\_usd\_distribution.png

│ ├── arima\_execution\_price\_forecast.png

│ ├── summary\_report.txt

│ └── trader\_data\_summary.txt

├── ds\_report.pdf

└── README.md

**How to Run**

Open notebook\_1.ipynb in Google Colab to do data cleaning and initial exploration.

Use the csv\_files/ folder to access the datasets.

After running the notebook, check the outputs/ folder for all the charts and summary files.

The main insights are summarized in ds\_report.pdf.

**Data Description**

1. fear\_greed\_index.csv Contains market sentiment data with these fields:

Link to dataset

Fear Greed Index link:

*https://drive.google.com/file/d/1PgQC0tO8XN-wqkNyghWc\_-mnrYv\_nhSf/view?usp=sharing*

Date

Classification (Fear or Greed)

Value

1. historical\_data.csv Contains trader data including:

Link to dataset

Historical Data

*https://drive.google.com/file/d/1IAfLZwu6rJzyWKgBToqwSmmVYU6VbjVs/view?usp=sharing*

Account

Symbol

Execution Price

Size

Side (Buy/Sell)

Time

Profit/Loss

Other trading-related features

Tools Used

Python 3 (Google Colab)

Pandas, NumPy

Matplotlib, Seaborn for visualizations

Statsmodels for ARIMA forecasting

**Author**

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