📊 Web3 Trader Behavior & Sentiment Analysis

This project analyzes how trader behaviors (profitability, volume, risk) align or diverge from market sentiment phases (Fear vs Greed) using real-world Web3 datasets.

📁 Directory Structure

ds_Tanvi/

├── notebook_1.ipynb # EDA + Preprocessing

├── notebook_2.ipynb # Analysis + Clustering

├── csv_files/ # Original + merged datasets

├── outputs/ # All graphs and visual outputs

├── ds_report.pdf # Final summary of insights

└── README.md # This file

Datasets Used

1. **Bitcoin Market Sentiment Index**
    - Columns: `Date`, `Classification` (Fear / Greed)
2. **Hyperliquid Trader History**
    - Columns: `size_usd`, `closed_pnl`, `direction`, `timestamp`, etc.

Key Insights

- Greed phases saw higher trade sizes but more volatile PnL outcomes.
- KMeans clustering identified 3 distinct trading behaviors regardless of sentiment.
- Trader actions often diverge from prevailing market mood — revealing hidden inefficiencies.

Deliverables

- All code in **Google Colab**, publicly viewable.
- All visuals saved under `outputs/`.
- Report includes:
    - Correlation matrix
    - Aggregation summaries
    - PCA-clustered behavior plots
    - Sentiment-cluster mapping

How to Reproduce

1. Clone the repo or download the `.zip`
2. Open `notebook_1.ipynb` in Google Colab
3. Run all cells in order to generate datasets
4. Continue with `notebook_2.ipynb` for insights

Colab Links

- `notebook_1.ipynb`
- `notebook_2.ipynb`

Author

Tanvi Maheshwari
Business Analyst Intern @ Markytics.ai | AI & Web3 Enthusiast
LinkedIn • GitHub