Trader Behavior Insights – Final Report

📌 Project Overview

This project analyzes the relationship between market sentiment (Fear vs Greed) and trader behavior on Hyperliquid using historical trade data and Bitcoin Fear-Greed index.

📊 Objectives

- Understand how trader performance varies across fear and greed days
- Analyze trends in trade sizes, directions, and profits
- Derive actionable insights for strategy improvements

🗒 Data Cleaning & Merging

- Converted `Timestamp IST` to datetime format and extracted `date`
- Merged sentiment and trading data on `date` column
- Dropped missing and irrelevant values
- Created a combined dataframe with 20 valid merged records

📈 Exploratory Data Analysis (EDA)

⬥ 1. Market Sentiment Impact

- Most trades occurred on **Greed days**
- Traders seem more active when sentiment is bullish

⬥ 2. Profitability Comparison

- PnL distribution analyzed using boxplots
- Greed days show slightly higher average PnL but higher variance

⬥ 3. Buy vs Sell Behavior

- Bar plots show higher number of **Buy orders during Greed**
- Sell orders more evenly spread

- BTC and ETH were most frequently traded
- PnL trends vary across tokens and sentiment types

📌 Key Insights

- Trading activity is positively correlated with greed sentiment
- Volatility and risk are higher during Greed days
- Traders could benefit from adjusting strategies based on sentiment

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📚 Tools & Technologies Used

- Python
- Google Colab
- Pandas, Matplotlib, Seaborn
- GitHub

📌 Conclusion

This analysis highlights the role of market sentiment in shaping trading behavior and outcomes. Future improvements can include deeper time-based analysis, leverage effect, and real-time dashboards for strategy recommendations.