

Trader Behavior vs Market Sentiment — Analysis Report

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Objective

Explore the relationship between trader performance (profitability, risk, volume, leverage) and Bitcoin market sentiment (Fear vs Greed). Identify signals and patterns to guide smarter trading strategies.

Datasets

- Historical trader data (Hyperliquid export).
- Bitcoin Fear & Greed Index (timestamp, value, classification, date).

Methodology

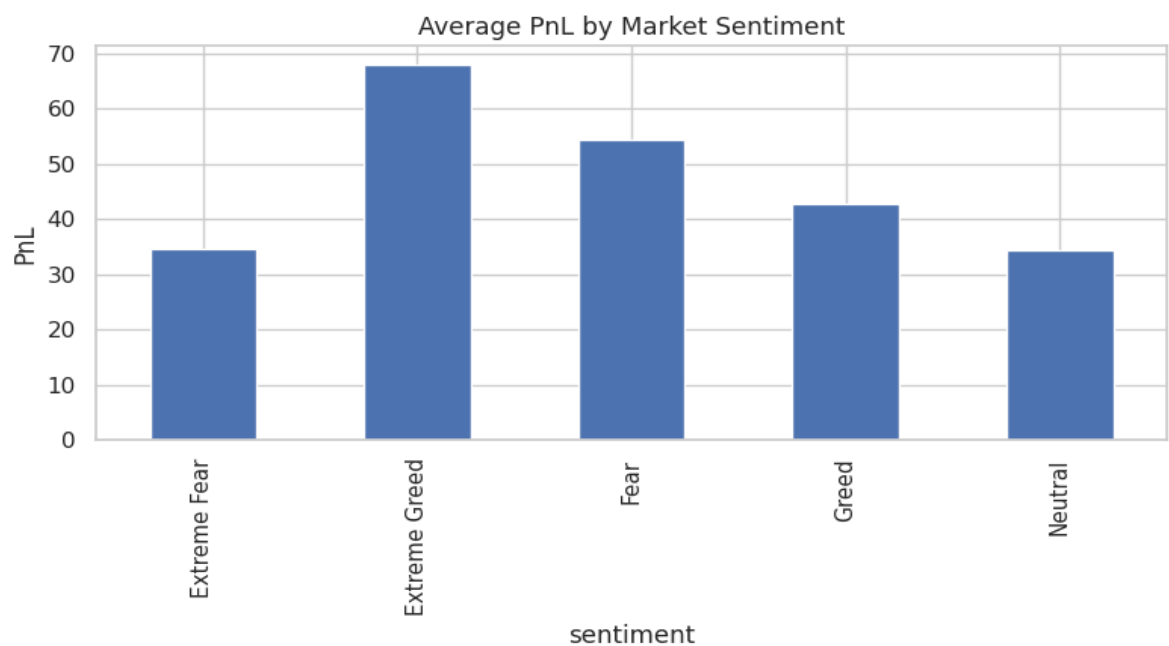
1. Clean and normalize trader timestamps (handled 'timestamp_ist' with format DD-MM-YYYY HH:MM). 2. Convert sentiment 'date' column to datetime.date and use 'classification' as sentiment label. 3. Merge trader events with daily sentiment on date. 4. Feature engineering: profit_flag (win/loss/breakeven), absolute trade size (USD), side normalization, leverage bucket where available. 5. Exploratory Data Analysis with aggregated metrics and visualizations saved as PNG files.

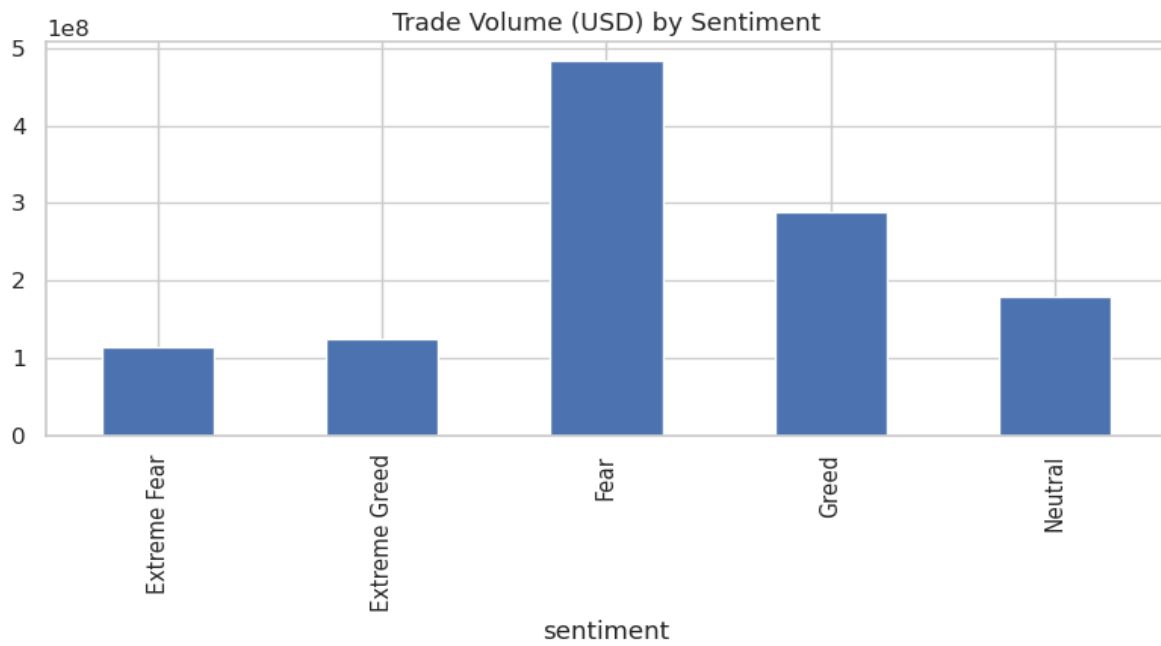
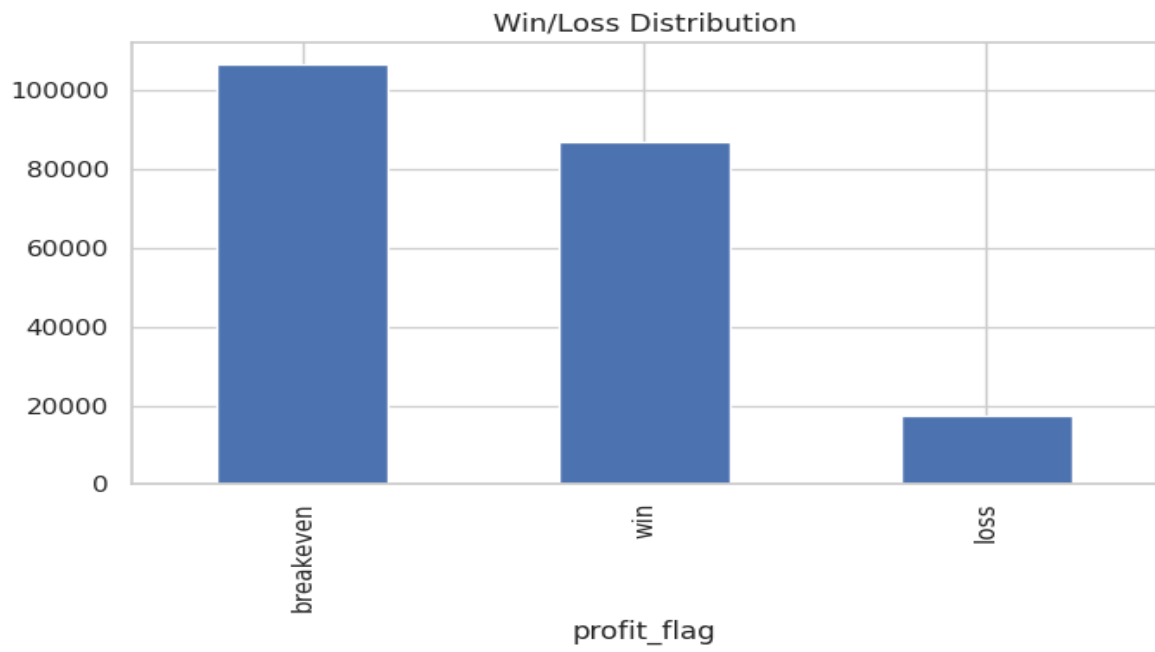
Key Findings (summary)

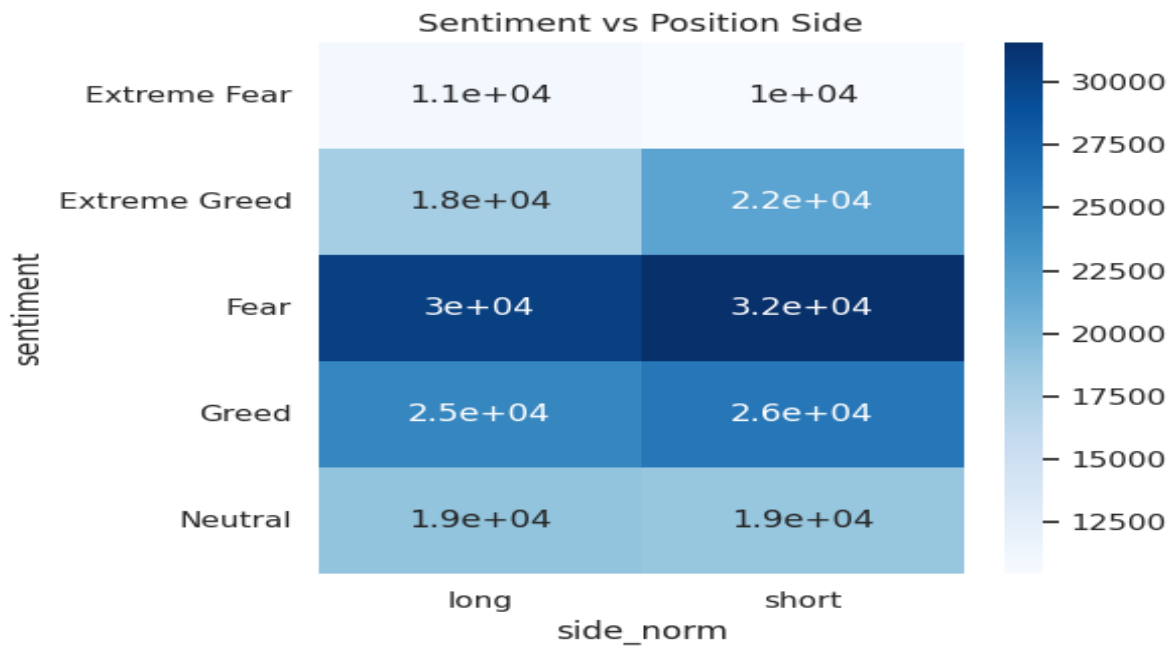
- Merged dataset not found at '/mnt/data/csv_files/merged_cleaned_data_final.csv'. Numeric summaries omitted.

Visualizations

Included plots:







Recommendations

1. Monitor leverage and concentration of position sizes during Greed periods — consider leverage limits.
2. Use sentiment as a feature in models predicting trade profitability (logistic regression / tree-based).
3. Investigate symbol-level sensitivity: some symbols may outperform during Fear or Greed.
4. Implement risk controls (stop-loss, position-sizing) tailored to sentiment regimes.

Notes & Limitations

1. The provided Hyperliquid data may not contain explicit leverage values for all trades; leverage-based insights are limited when missing.
2. Merging relies on date alignment; intraday effects are not captured by daily Fear/Greed labels.
3. Results depend on data quality; further validation recommended before deploying automated strategies.

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