Trader Behavior vs Market Sentiment (Fear & Greed)

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Assignment: Data Science Assignment – Web3 Trading Team

1. Objective

This analysis explores how trader behavior aligns with Bitcoin market sentiment. The study evaluates profitability, leverage, position size, volume, and directional bias across Fear and Greed market regimes.

2. Datasets Used

**Bitcoin Fear & Greed Index:** Daily market sentiment indicator.
Hyperliquid Historical Trader Data: Trade-level execution, PnL, position sizing, and direction data.

3. Methodology

• Timestamp normalization to daily UTC granularity
• Dataset merge on aligned dates
• Sentiment consolidation into Fear and Greed regimes
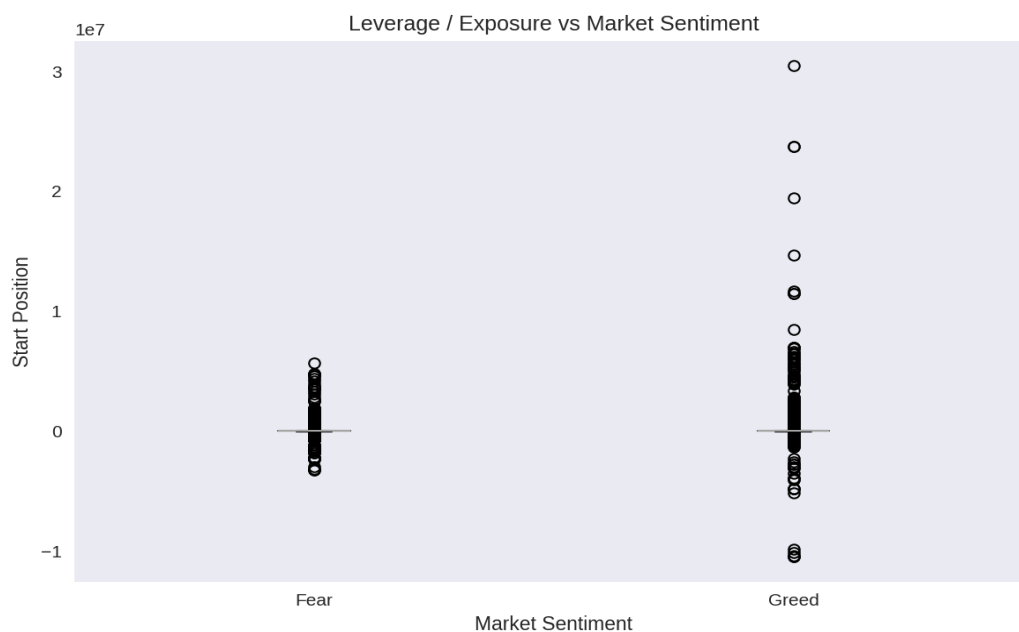• Comparative behavioral analysis

4.1 Profitability vs Market Sentiment

Greed regimes show higher median profitability, while Fear regimes exhibit higher volatility.
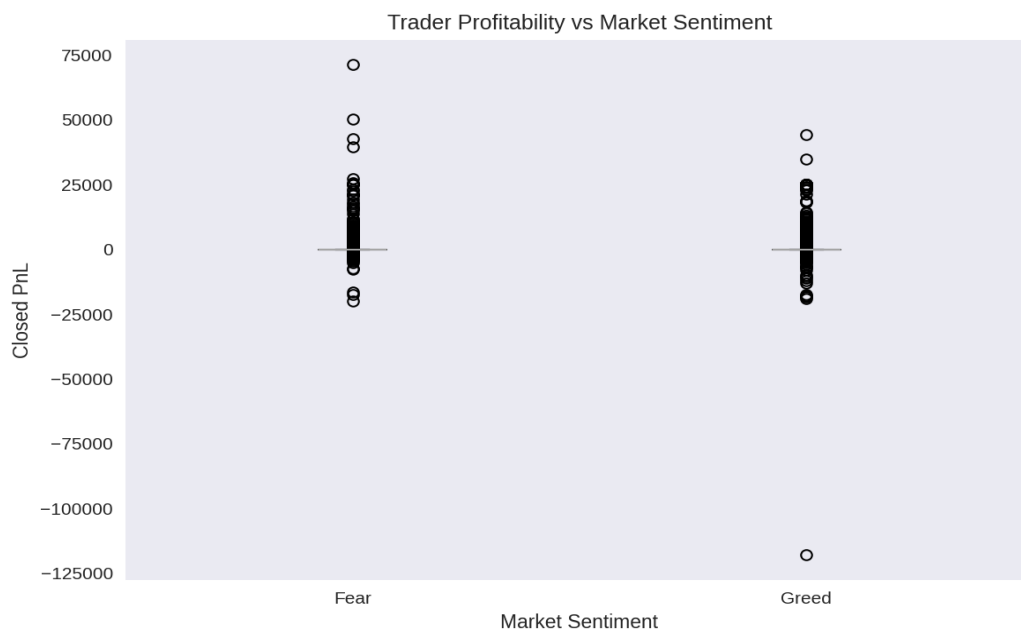
4.2 Leverage / Exposure vs Market Sentiment

Leverage and exposure increase during Greed regimes, reflecting increased risk appetite.
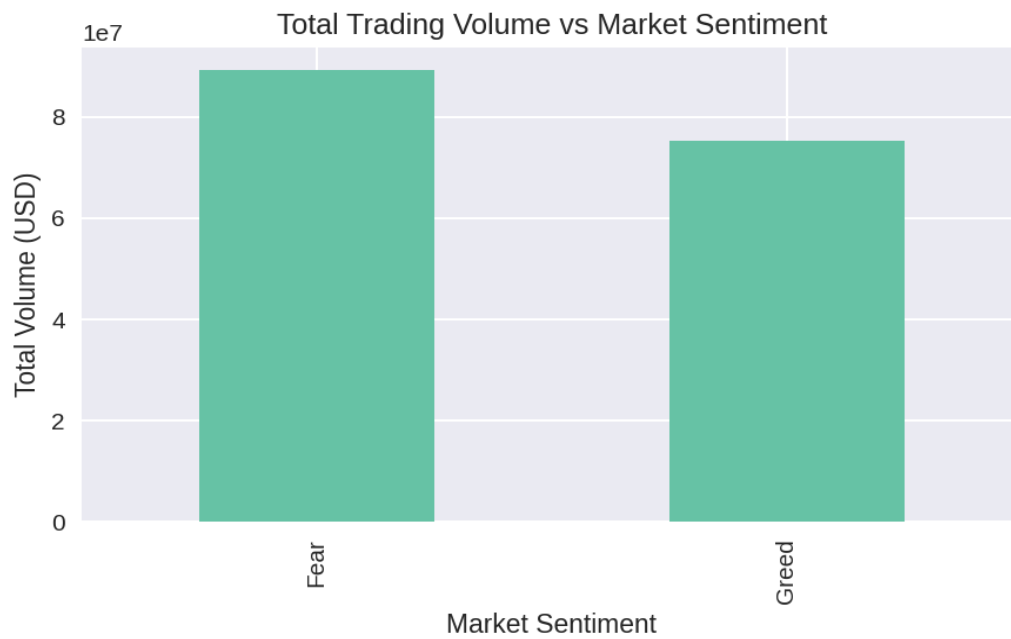
Leverage / Exposure vs Market Sentiment

4.3 Position Size vs Market Sentiment

Position sizes are generally larger during Greed periods compared to Fear periods.
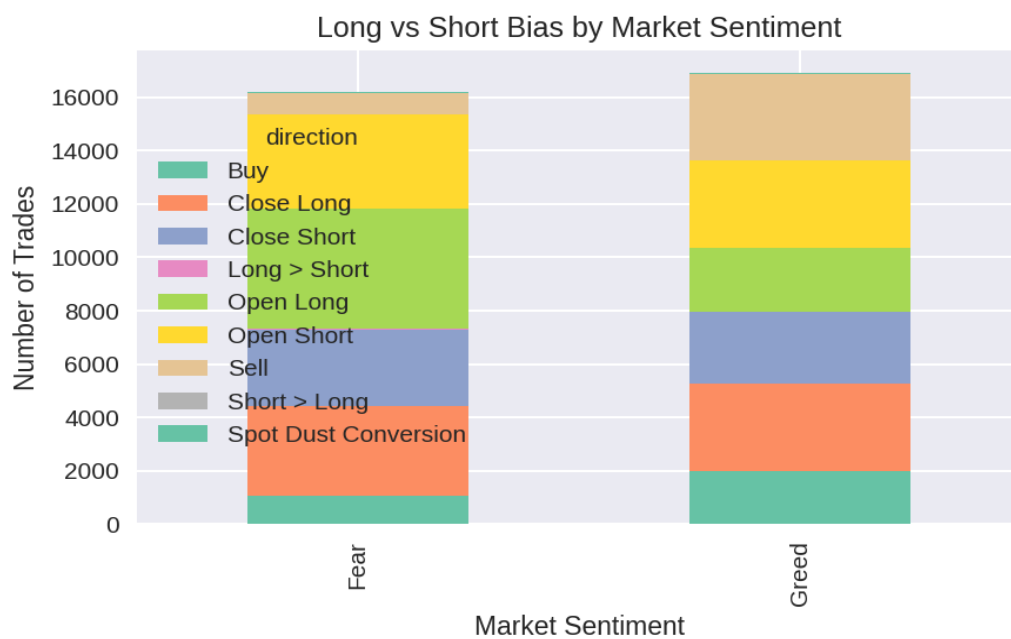

Position Size vs Market Sentiment
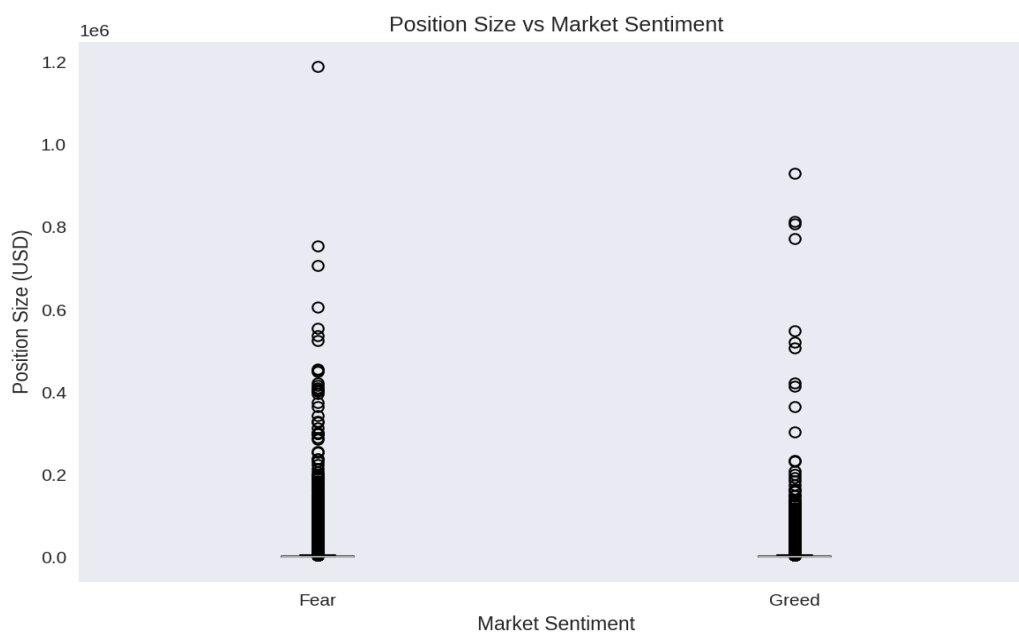
4.4 Trading Volume vs Market Sentiment

Trading volume rises during Greed regimes, indicating stronger market participation.

Total Trading Volume vs Market Sentiment

4.5 Directional Bias vs Market Sentiment

Greed regimes exhibit stronger long-biased directional behavior.

Long vs Short Bias by Market Sentiment

5. Conclusion

Trader behavior is strongly influenced by market sentiment. Greed regimes encourage higher leverage, larger positions, and greater volume, while Fear regimes are marked by volatility and defensive positioning. These insights can support smarter risk-aware trading strategies.