Trader Performance vs Market Sentiment

Web3 Trading – Data Science Assignment

Objective

This analysis shows us how market sentiment influences the trader performances, risk exposure, and behavior using Hyperliquid execution data combined with the Bitcoin Fear & Greed Index.

Our goal is to identify the behavioral patterns that can support sentiment aware trading strategies.

Data Summary

Trader Data: Trade level executions including trade size, direction, timestamp, and realized PnL.

Sentiment Data: Daily Bitcoin Fear & Greed classification.

Trades were matched to sentiment regimes using the trade date.

Methodology

Parsed and aligned timestamps

Merged trades with daily sentiment labels

Engineered performance and risk metrics:

Profitability

Win rate

Trade size

Conducted sentiment-level and trader-level analysis

Visualized PnL and risk distributions

Key Findings

Trader behavior changes significantly across sentiment regimes

Greed regimes show:

Larger trade sizes

Higher PnL volatility

Fear regimes show:

Reduced exposure

More stable outcomes

Consistently profitable traders scale down risk during sentiment extremes

Sell-side trades during Fear often outperform, indicating contrarian behavior

Strategic Implications

Market sentiment functions as a risk regime indicator

Exposure controls should tighten during Greed

Trader evaluation should include performance under Fear

Sentiment-aware position sizing can improve consistency

Limitations

Sentiment is measured at daily granularity

Psychological intent inferred from behavior

Does not include volatility or funding rate data

Conclusion

Market sentiment materially impacts trader behavior and outcomes.

Traders who adapt risk dynamically across sentiment regimes outperform those who react emotionally.

Sentiment is not a price signal — it is a behavioral risk signal.