

Executive Summary of Trader Performance and Bitcoin Market Sentiment

1. Data Sources

- Bitcoin Market Sentiment Dataset: Daily “Fear” or “Greed” classification + sentiment score (0–100).
- Hyperliquid Historical Trader Data: Trade-level data including account, symbol, execution price, side (buy/sell), leverage, closedPnL, and size.

2. Key Findings

A. Market Sentiment & Trader Performance

- On average, mean closedPnL differs by sentiment regime.
 - *Greed periods*: Traders tend to take larger positions and more longs, often with higher variance in PnL.
 - *Fear periods*: Activity slows down, with more conservative trade sizes but mixed profitability.
- Statistical tests (Kruskal-Wallis, Mann-Whitney) suggest some difference in distribution of PnL between Fear vs. Greed, though significance depends on symbol.

B. Position Bias

- Scatter plots showed PnL outcomes correlate with % Long exposure.
 - Excessive long exposure in high “Greed” periods often led to drawdowns.
 - Balanced or contrarian stances performed better in “Fear” conditions.

C. Per-Symbol Performance

- Not all coins behave the same:
 - BTC/ETH were more sensitive to sentiment swings.
 - Altcoins showed weaker direct correlation but higher volatility.

D. Trader-Level Insights

- Top-performing accounts were not always those with highest PnL — some had better Sharpe-like ratios, balancing risk vs. return.
- Consistent traders maintained win rates >55% and avoided extreme leverage during volatile sentiment days.

E. Predictive Modeling

- Random Forest outperformed Linear Regression in predicting next-day PnL (higher R^2 , lower RMSE).
- Sentiment value, % long, and trade size emerged as important predictive features.

3. Strategy Recommendations

A. Sentiment-Based Positioning

1. Greed Periods (Sentiment > 60):
 - Avoid excessive leverage — drawdowns increase when greed is high.
 - Favor contrarian or hedged strategies (short bias or spread trades).
 - Reduce exposure to altcoins which show amplified volatility.
2. Fear Periods (Sentiment < 40):
 - Opportunities for accumulation — long positions historically showed better risk-adjusted returns.
 - Moderate leverage is safer here than in greed conditions.

B. Risk Management

- Implement volatility-based position sizing: cut exposure when sentiment is extreme (Fear < 20 or Greed > 80).

- Track trader-level performance metrics (Sharpe-like, win rate) and adapt strategy allocation accordingly.

C. Model-Driven Insights

- Use Random Forest feature importance to monitor which sentiment features most affect profitability.
- Deploy a daily signal: if sentiment value + % Long bias predict negative PnL for next day, reduce or reverse exposure.

D. Symbol Allocation

- Allocate more capital to BTC/ETH during Fear conditions.
- Reduce exposure to altcoins in Greed phases, since they correlate with higher losses.