Analysis of Trader Performance and Market Sentiment

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1. Objective

The objective of this analysis is to explore the relationship between trader performance on the Hyperliquid platform and the Bitcoin market sentiment (Fear & Greed Index). The goal is to uncover hidden patterns and deliver insights that can drive smarter trading strategies.

2. Methodology

The analysis was conducted using Python in a Google Colab environment. Two datasets were used: historical trader data from Hyperliquid and the historical Fear & Greed Index. The datasets were cleaned and merged on their common date. Key trading metrics such as Closed PnL were then analyzed across different sentiment classifications using the pandas, matplotlib, and seaborn libraries.

3. Key Findings & Visualizations

This is where you will insert your charts and explain them.

### Finding 1: Profitability is Highest During Periods of Extreme Fear

The analysis reveals a clear negative correlation between market sentiment and average trader profitability. As seen in the chart, the only period with a positive average Closed PnL was 'Extreme Fear.' This indicates that, on average, traders who operate against the prevailing negative sentiment tend to achieve better outcomes.

Average P&L per Sentiment
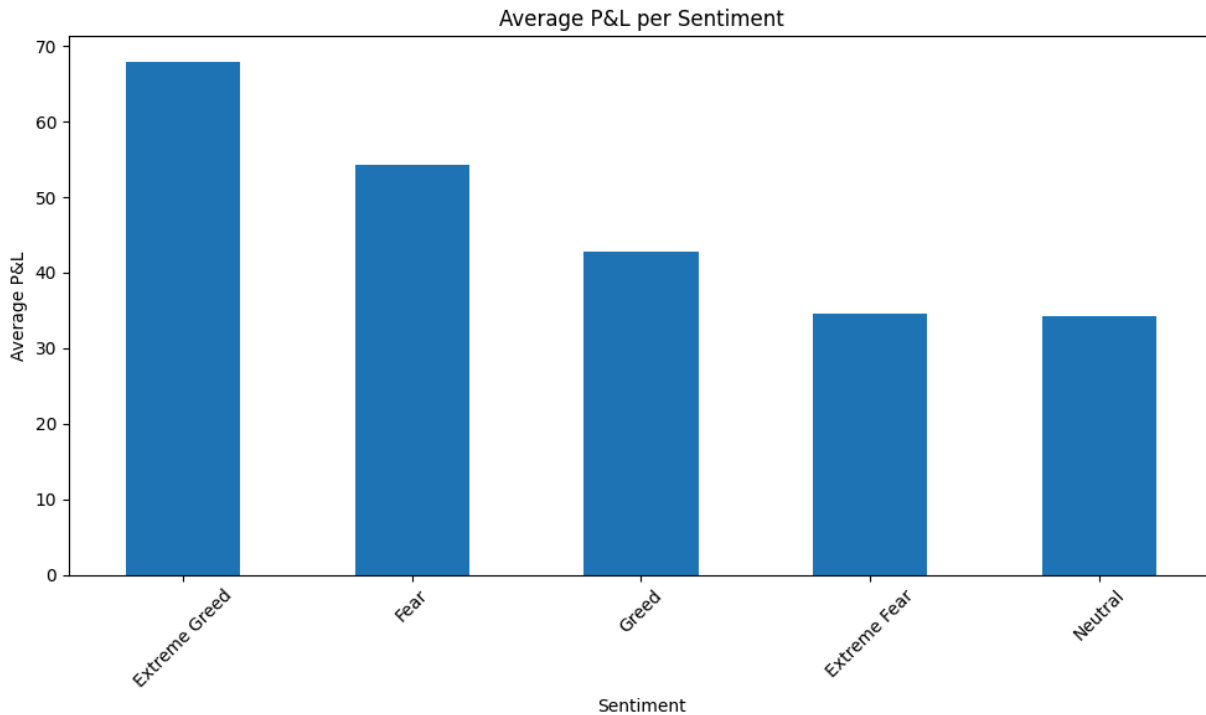
Finding 2: Optimal Buy/Sell Strategies Diverge at Sentiment Extremes

By segmenting trades by 'Side' (Buy/Sell), a hidden pattern emerges. The data reveals that:

- **Buying strategies** are most effective during 'Extreme Fear' and progressively lead to losses as the market shifts towards 'Extreme Greed.'
- **Selling strategies** perform best (i.e., have the smallest losses) during 'Extreme Greed.' This divergence highlights that the type of strategy a trader should employ is heavily dependent on the market's emotional state.

Average P&L by Sentiment and Trade Side
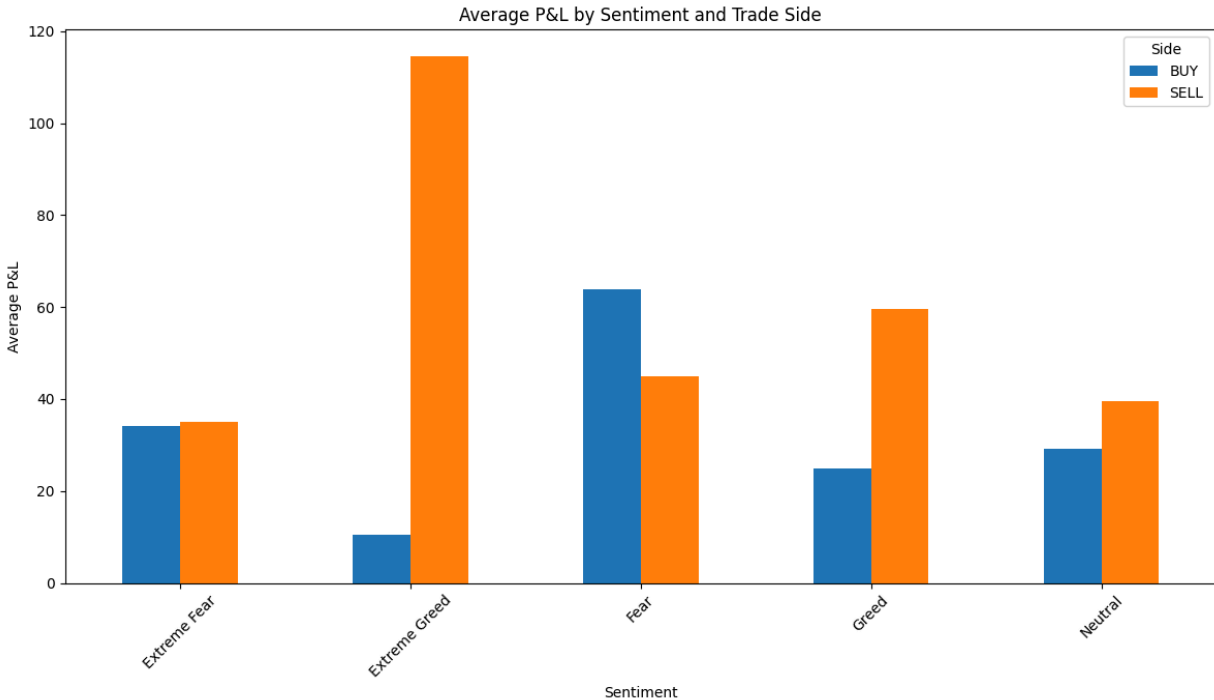
4. Conclusion & Strategic Recommendations

The data provides strong evidence for a contrarian approach to trading:

1. **Adopt a Contrarian Buying Strategy:** The most opportune moments to execute BUY orders are during periods of 'Extreme Fear.' Traders should be cautious of entering new long positions when market sentiment is 'Greed' or 'Extreme Greed.'
2. **Use Greed as a Signal for Taking Profits:** Periods of 'Extreme Greed' are associated with the worst average PnL. This suggests 'Extreme Greed' is a strong signal that the market may be overextended, making it an ideal time to consider taking profits on existing positions.