Analysis of Daily Trading P&L Across Market Sentiments

Summary

This report analyzes how market sentiment, derived from the Fear and Greed Index, affects daily trading performance (PnL). A clear trend is observed where PnL improves with increasing greed sentiment, suggesting stronger performance in bullish conditions.

Objective

To examine whether market sentiment affects the average daily PnL of individual bitcoin traders. What are the effects of market sentiments on profits and losses of these traders?

Data Description

- Files used: 'historical_data.csv' and 'fear_greed_index.csv'
- 'Closed PnL' column from the trade log.
- 'Classification' column from Fear and Greed index.
- 'Date' & 'Classification' columns from the fear and greed index were merged in the trade log data.
- Data covers a selected date range where trading data and sentiment index are available.

Methodology

- Merged daily trade data with sentiment data using the date field
- Calculated daily average Closed PnL per sentiment class
- 'Closed PnL' and 'Classification' columns were merged and analyzed, to give an insight whether market sentiment (Fear, Neutral, Greed) correlates with daily trading profits and losses.

Visual Analysis

- Extreme Greed shows the highest avg. PnL
- Performance dips significantly under Extreme Fear
- Neutral and Greed conditions offer moderate returns

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Average Daily PnL by Market Sentiment
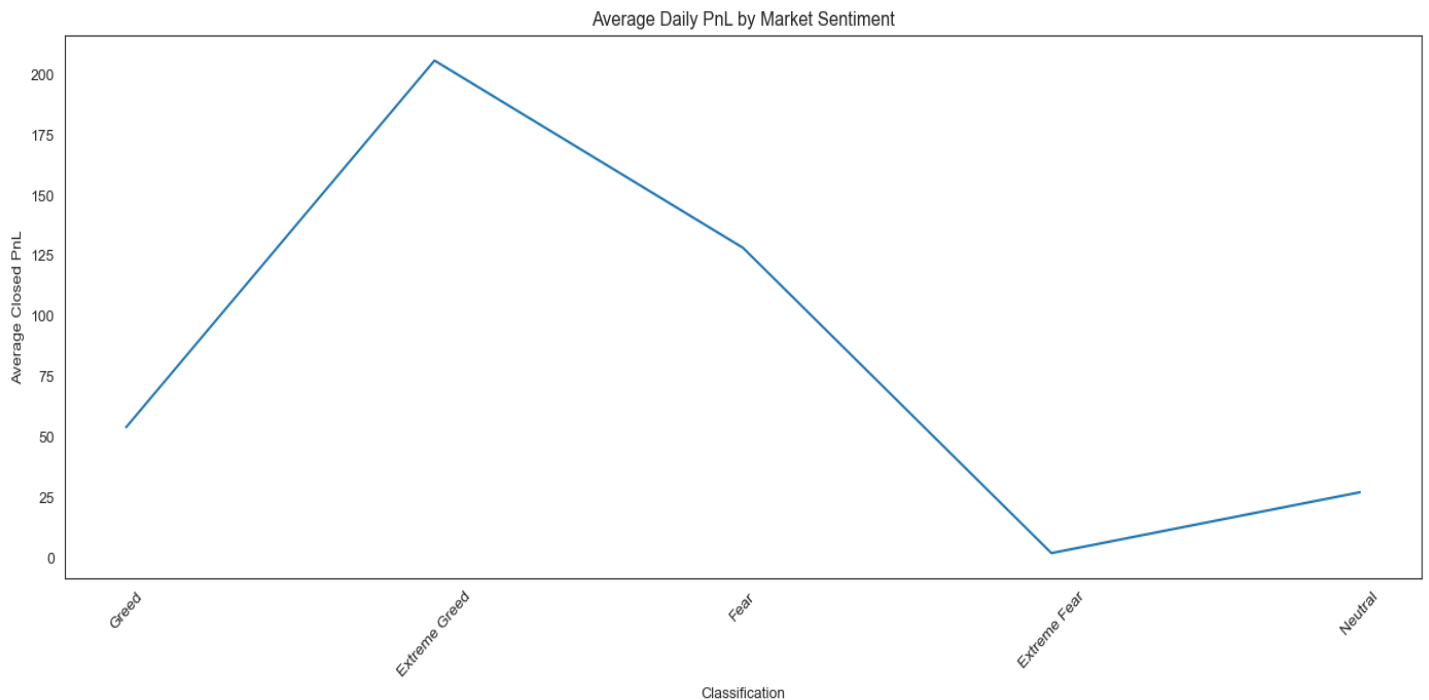
Conclusion

The analysis shows that trading performance improves with positive market sentiment. Highest average PnL was observed during periods of *Extreme Greed*, while *Extreme Fear* resulted in the lowest returns. This indicates that sentiment plays a significant role in trading outcomes and should be considered when forming strategies.

What else can you expect?

The 'Fee' column can be considered as leverage. 'Fee' vs 'Classification' can be analyzed to gain insights on how sentiments can affect the leverage and risk taking of traders.

Also, analyzing 'Size USD' across sentiment classifications can show some behavioral patterns, such as whether traders tend to go all-in during greed or hold back in fear.

https://colab.research.google.com/drive/1rdtxDe-G_cw_n8ntEmaA-jjq8Y81BF8x?usp=sharing