

Methodology

This project analyzes the relationship between market sentiment and trader behavior using the Bitcoin Fear & Greed Index and trade data. Trade records were cleaned, timestamps were aligned to daily frequency, and sentiment labels were merged with trader activity. The analysis focused on **Fear** and **Greed** conditions to compare contrasting market environments.

Key metrics were derived, including daily PnL, win rate, trade frequency, average trade size, and long/short positioning. Comparative analysis and visualizations were used to evaluate behavioral and performance differences. A logistic regression model was also developed to predict daily trader profitability using trading behavior features and sentiment.

Key Insights

- Greed conditions show slightly better performance, but overall profitability is driven by a small number of large winning trades rather than consistent small gains.
- Fear periods significantly increase trading activity and position sizes, indicating volatility-driven participation and reactive risk-taking behavior.
- Win frequency alone does not determine profitability; capturing high-value trades plays a more critical role in overall returns.

Strategy Recommendations

- risk exposure during Fear markets by limiting position sizes and avoiding excessive trading in high-volatility conditions.
- Trade selectively during Greed conditions, focusing on high-quality opportunities instead of increasing trade frequency.
- Maintain strong risk–reward discipline by controlling losses and allowing profitable trades to run.

Conclusion

Market sentiment meaningfully influences trading behavior, particularly in risk-taking and activity levels. Incorporating sentiment awareness and disciplined risk management can improve trading decisions and enhance resilience across changing market conditions.