Trader Performance vs Market Sentiment Analysis

Methodology

This study evaluates the impact of market sentiment (Fear & Greed Index) on trader performance. Historical trade data was cleaned and processed to generate daily performance metrics, including Daily PnL, Win Rate, and Trade Count. The dataset was merged with sentiment classifications using daily timestamps. Performance was compared across sentiment regimes (Fear, Greed, Neutral, Extreme Greed). An independent t-test was conducted to assess whether differences in average profitability across regimes were statistically significant. Visualizations were used to analyze return distributions and variability.

Key Insights

- Traders generate higher average daily PnL during Fear regimes compared to Greed regimes.
- Fear periods also exhibit higher volatility, indicating increased risk alongside higher returns.
- Statistical testing confirms that performance differences across sentiment regimes are significant.
- Trading activity varies across regimes, with higher trade frequency observed during Greed periods, suggesting possible behavioral biases such as overtrading.

Overall, market sentiment materially influences trader profitability, risk exposure, and behavior.

Strategy Recommendations

- Incorporate sentiment-based regime filters into trading strategies.
- Increase risk controls during Fear periods due to elevated volatility.
- Implement safeguards against overtrading during Greed regimes.
- Use sentiment-aware performance monitoring to dynamically adjust risk and capital allocation.