

Data Science Report: Trading Performance vs Market Sentiment

Executive Summary

This report analyzes cryptocurrency trading performance in relation to market sentiment using the Fear and Greed Index. Cleaned sentiment data was merged with historical trading records to identify behavioral and profitability patterns during fear and greed periods.

Data Overview

The sentiment dataset contains daily Fear and Greed Index values from 2018 to 2025. The trader dataset includes more than 76,000 executed trades with pricing, volume, and PnL details.

Cleaning Steps

Timestamps were converted to IST, numeric columns were cleaned, sentiment labels standardized, and a common date key was created to enable accurate merging.

Merging Logic

Both datasets were merged using the `date_ist` column with a left join to preserve all trades.

Key Findings

Greed periods show a higher win rate, while fear periods exhibit higher trading volume. Volatility is greater during greed, indicating increased risk and reward.

Conclusion — Trading Strategy Recommendation

Traders should apply stable, risk-controlled strategies during fear and momentum-based strategies during greed, with strict risk management.