Trader behaviour insights based on Market Sentiment

Data-driven analysis of crypto trader behaviour using sentiment data (Fear & Greed Index).

This project explores how crypto traders behave under different market sentiments — such as Fear, Greed, Extreme Fear, and Extreme Greed — using two datasets: historical trading data and the Bitcoin Fear & Greed Index. The goal is to uncover how emotions influence trading performance, direction, and decision-making patterns.

Project Structure:

- historical_data.csv – Contains over 200,000 real trades from a crypto platform, including execution time, side (BUY/SELL), trade size, and PnL.
- fear_greed_index.csv – Contains daily sentiment labels (Fear, Greed, etc.) and dates.
- notebook_1.ipynb – Python notebook with full data cleaning, merging, analysis, and visualizations.
- Visual_Report.pdf – Canva-designed project summary with key plots and observations.

Objectives:

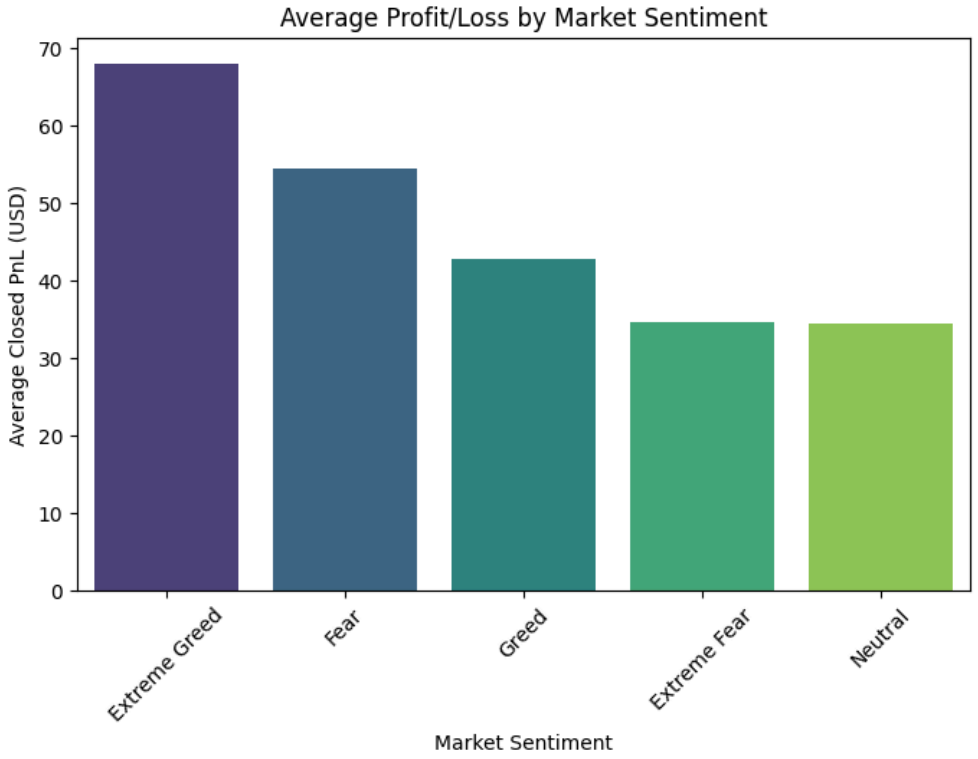
- Understand how market sentiment impacts trader behavior
- Measure average profit/loss across different emotions
- Compare trade sizes and risk-taking patterns under emotional conditions
- Visualize BUY vs SELL activity per sentiment label
- Recommend smarter strategies using data-driven insights

Tools Used:

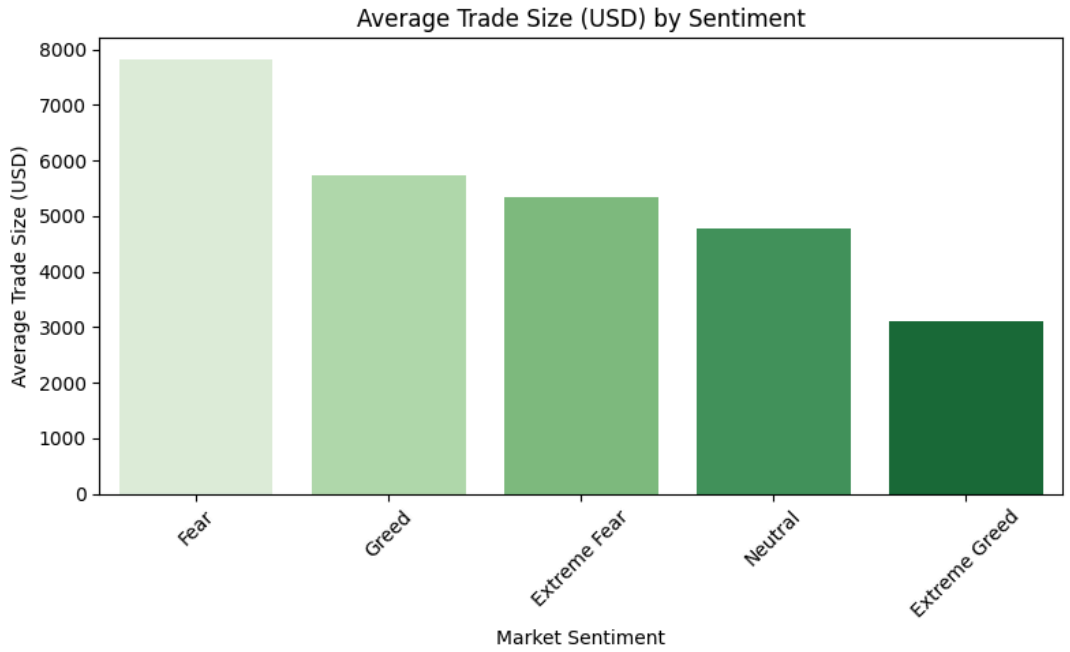
- Python: pandas, matplotlib, seaborn
- Canva: For visual storytelling and final presentation
- GitHub: Version control and project sharing

Key Insights:

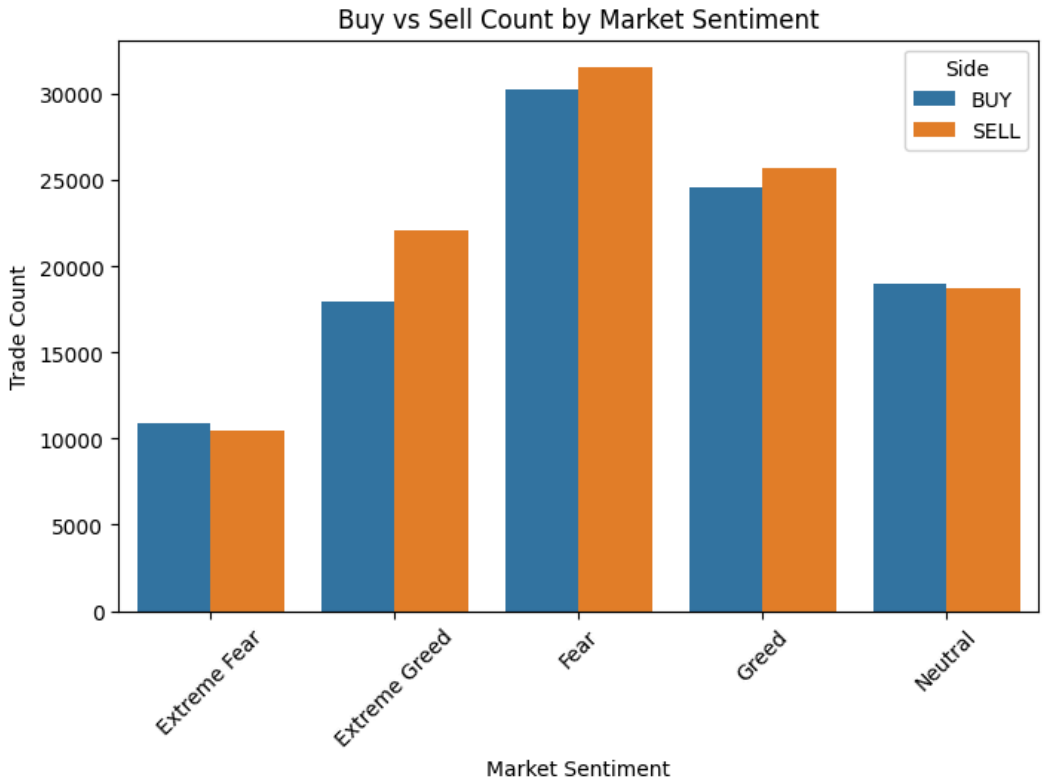
- Highest profits occurred during Extreme Greed, suggesting traders capitalized on bullish momentum.



- Surprisingly, Fear had the largest average trade size — possibly due to opportunistic risk-taking.



- Traders bought more during Greed and sold more during Fear, confirming emotional bias in trade direction.



- Smart strategies like sentiment-aware alerts and emotional risk control can help improve decision-making.

What I Learned:

- Real-world sentiment data can reveal valuable behavioral patterns in financial decision-making.
- Data visualization is key to uncovering trends that aren't obvious from raw tables.
- Crypto markets are emotionally volatile — and data can help tame that uncertainty.