Sentiment vs Trader Behavior Analysis

Candidate: Siddhi A Jain

Domain: Data Science

1. Objective

This project explores the relationship between market sentiment (Fear–Greed Index) and trader performance. The objective is to determine whether traders tend to perform better during periods of greed or fear, using key performance metrics such as profit/loss and Trading volume.

2. Data Overview

Two primary datasets were used:

1. Fear–Greed Index: Captures daily market sentiment with labels like Fear, Neutral, and Greed.

2. Trader Historical Data: Includes timestamps,Closed profit/loss (PnL), trade size, and leverage details. The datasets were merged based on date to align trader activity with market sentiment.

3. Methodology

1. Cleaned and standardized data (date formatting, missing values, column names).
2. Merged trader data with sentiment classification by date.

3. Computed average profit/loss and total trading volume by sentiment.
4. Visualized profit–loss distribution and sentiment-based performance metrics.
5. Derived correlations between sentiment value, profit, and trade volume.

4. Key Insights

Profitability:

Traders showed higher average profit during Greed phases.

Loss Trends:

Loss frequency increased during Fear-dominated market days.

Volume Activity:

Total trading volume was significantly higher during Greed sentiment.

Correlation:

Moderate positive correlation between sentiment value and profit.

5. Conclusion

Market sentiment strongly influences trader behavior. During periods of greed, traders display greater confidence, resulting in higher trade volumes and profits. In contrast, fear-dominated periods reflect cautious trading and lower profitability. This analysis highlights how behavioral finance insights can guide better decision-making in trading strategies.