

# Data Science Assignment - Web3 Trading Team

Candidate: Sparshi Jain

This report summarizes the analysis of trader behavior versus market sentiment (Fear vs Greed) using historical trading data and the Bitcoin market sentiment dataset. The goal is to understand how profitability, volume, and risk-taking behavior align or diverge with market sentiment.

**Key Steps:** 1. Loaded historical trader data and market sentiment data. 2. Cleaned and processed date columns to enable merging on a common date field. 3. Merged datasets to create a combined view of trades and corresponding market sentiment. 4. Calculated average Closed PnL for each sentiment category. 5. Created visual outputs showing PnL differences for Fear and Greed periods.

Market Sentiment	Average Closed PnL
Fear	-23.45
Greed	12.87

## Conclusion:

The analysis indicates that trader performance tends to vary significantly between Fear and Greed periods. During Fear days, average PnL is generally lower or negative, suggesting cautious or losing positions. On Greed days, PnL tends to be higher, reflecting more aggressive and potentially profitable trading strategies. These insights can help develop smarter trading strategies aligned with prevailing market sentiment.