

## **Title:**

Trader Behavior vs. Market Sentiment

Internship Submission – Junior Data Scientist

## **Candidate Information**

Name: Suhani Mane

College: Marathwada Mitra Mandal College of Pune, Karve Nagar,Pune

Role: Junior Data Scientist – Trader Behavior Insights

Date: July 27, 2025

## **Objective**

Analyze how trader behavior — including profitability, leverage, and volume — correlates with Bitcoin market sentiment (Fear/Greed). Identify patterns that can guide trading strategies and risk decisions in Web3 markets.

## **Datasets Used**

- Fear & Greed Index

Source: Bitcoin Sentiment Data

Columns: Date, Classification (Fear / Greed / Neutral / Extreme Greed / Extreme Fear)

- Hyperliquid Trader Data

Contains 211,000+ trade logs

Columns: account, time, execution price, size (tokens, USD), side, closed PnL, leverage, symbol, event, etc

## **Visual Highlights**

1.Bar Charts:

Sentiment distribution (count of trades)

Average PnL / Leverage / Volume per sentiment

2.Line Plots:

Daily PnL over time by sentiment

Daily volume over time by sentiment

3.Heatmaps:

Correlation matrix between numerical features

Avg PnL per coin per sentiment (most insightful)

Key Findings

| Metric                 | Insight  |
|------------------------|--|
| Leverage Proxy         | Traders use highest leverage in Neutral and Greed phases — possibly overconfidence.        |
| Volume (USD)           | Fear sentiment drives the highest total volume — indicating panic trades.                  |
| Time Series            | PnL and volume show sentiment-driven spikes. Extreme sentiment phases are highly volatile. |
| Coin Analysis          | Some coins like COMP, SUSHI, ETHFI, FXS perform well in Fear/Greed. Others stay neutral.   |
| Average Closed PnL     | Surprisingly, Extreme Greed yields the highest average profits.                            |
| Sentiment Distribution | Most trades occur under Fear and Greed. Neutral and Extreme phases are rarer.              |

Conclusion

This analysis shows clear behavioral patterns linked to crypto sentiment. Understanding these can help design smarter trading bots, set dynamic leverage/risk thresholds, or improve execution strategies during extreme market phases.

