Data Science Assignment Instructions – Web3 Trading Team

Bitcoin Market Sentiment & Trader Behavior Report

About the Project

In this project, I looked at how traders behave in the crypto market depending on the overall mood — whether people are feeling Fear or Greed. The goal was to see if traders make more money, take bigger risks, or trade differently when the market sentiment changes.

I worked with two datasets:

- A market sentiment dataset that labels each day as either "Fear" or "Greed"
- A historical trading dataset that includes trade size, direction, profit/loss, and more

What I Did:

1. **Loaded and cleaned both datasets** using pandas in Google Colab
2. **Merged them** by date, so each trade was matched with that day's sentiment
3. **Explored the data** through graphs to understand what changes during Fear vs Greed

What I Found:

1. **Profit and Sentiment (Pie Chart):**

   Traders earned more money during Greed periods overall. But surprisingly, some still made profits during **Fear**, which shows that smart traders can still win in uncertain conditions.

2. **Trade Volume (Donut Chart):**

   Trade volume (in USD) was higher during Greed, meaning people are more active and confident when the market feels positive.

3. **Number of Trades:**

   There were more trades happening on Greed days. In Fear periods, people traded less and with smaller amounts — likely being more cautious.

4. **Long vs Short (Bar Chart):**

   More Long positions were taken during Greed (betting that prices would rise). During Fear, Shorts (betting prices will fall) were more common.

5. **Profit by Trade Type (Heatmap):**

   Long trades in Greed were the most profitable on average. Shorts during Fear had mixed results — sometimes good, sometimes risky.

Conclusion:

The market's mood clearly affects how people trade.

- During Greed, people trade more, take more risks, and often make more profit
- During Fear, activity drops, but some experienced traders still manage to profit

These insights could help build smarter trading bots or improve strategies by reacting to sentiment in real time.

Tools I Used:

- Python (Pandas, Matplotlib, Seaborn)
- Google Colab
- GitHub

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