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The dataset consisted of **211,218 trades** with the following key attributes:

- **Execution Price**, **Size Tokens**, **Size USD**, **Start Position**, **Closed PnL**
- **Trade Direction**, **Sentiment Score**, **Classification (1 = Fear to 5 = Extreme Greed)**
- **Timestamp**, which was used to align with market sentiment data

Market sentiment values were sourced and reclassified:

- 1 = Fear
- 2 = Extreme Fear
- 3 = Neutral
- 4 = Greed
- 5 = Extreme Greed

classification vs value:

A clear and interpretable trend. As the market sentiment shifts from Extreme Fear to Extreme Greed, the average ivalue increases steadily.

This validates that: The classification thresholds (e.g. ≤25 as Extreme Fear, ≥75 as Extreme Greed) correctly group similar data points.

Traders become **most active (highest volume)** in fearful markets, and **least active** in neutral markets — possibly indicating **opportunistic or panic trading**.Profitability **peaks in both extreme fear and extreme greed**, suggesting **contrarian strategies** during these periods may be effective.

Classification	Avg Size Tokens
1 (Fear)	**8832.4**
2 (Extreme Fear)	4383.4
3 (Neutral)	**1675.9**
4 (Greed)	4715.3
5 (Extreme Greed)	2992.6

- Traders become **most active (highest volume)** in fearful markets, and **least active** in neutral markets — possibly indicating **opportunistic or panic trading**.

Execution Price Trends:

Average execution price **increases** from sentiment 1 → 5.Suggests prices are higher during **greedy markets**, and lower during **fearful markets**.

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Trade Direction Distribution:

Most common trades: Open Long, Close Long, Open Short ,Sentiment classification **heavily affects direction**, with aggressive strategies (e.g., Open Short) seen more in extreme greed

Hidden Trends & Signals:

1.Risk Behavior

- Standard deviation of PnL is **highest during Neutral and Greed**, suggesting greater **risk exposure** or **volatility** in these sentiments.

2. Greed ≠ High Volume

- Although sentiment improves (toward greed), token size **declines**, hinting that traders become **cautiously optimistic** or **overconfident but conservative**.

3. Market Fear → High Activity, Higher Average Returns

- Fear seems to **activate more trades**, especially large-volume ones, with **decent PnL performance**, perhaps reflecting **value investing or dip-buying behavior**.

Insights & Observations:

Sentiment scores fluctuated sharply between Fear and Neutral .Token size and position show meaningful alignment, which can help in sizing or timing strategies. Prices are lowest when sentiment is at 1 (fear), around 6000 USD. Most people are doing "Open Long" and "Close Long" trades.That means traders mostly expect prices to go up (bullish mindset).

Conclusion:

This project clearly demonstrates how **trading behavior shifts with market sentiment**, revealing valuable patterns:

- **Fear drives volume and sometimes better returns**
- **Greed lifts prices but not trade size**
- **Neutrality sees the least activity and inconsistent returns**

These findings can be applied to:

- Strategy optimization (e.g., contrarian models)
- Portfolio risk management
- Sentiment-aware trading algorithms

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Tools Used:

- Python (Pandas, Matplotlib, Seaborn)
- Jupyter Notebook
- MS Word / PowerPoint (for formatting)