

Bitcoin Trading Analytics Report

Powered by Greed & Fear Index Sentiment Classification

 Date Range: 2023-03-28 to 2025-02-19

1. Executive Summary

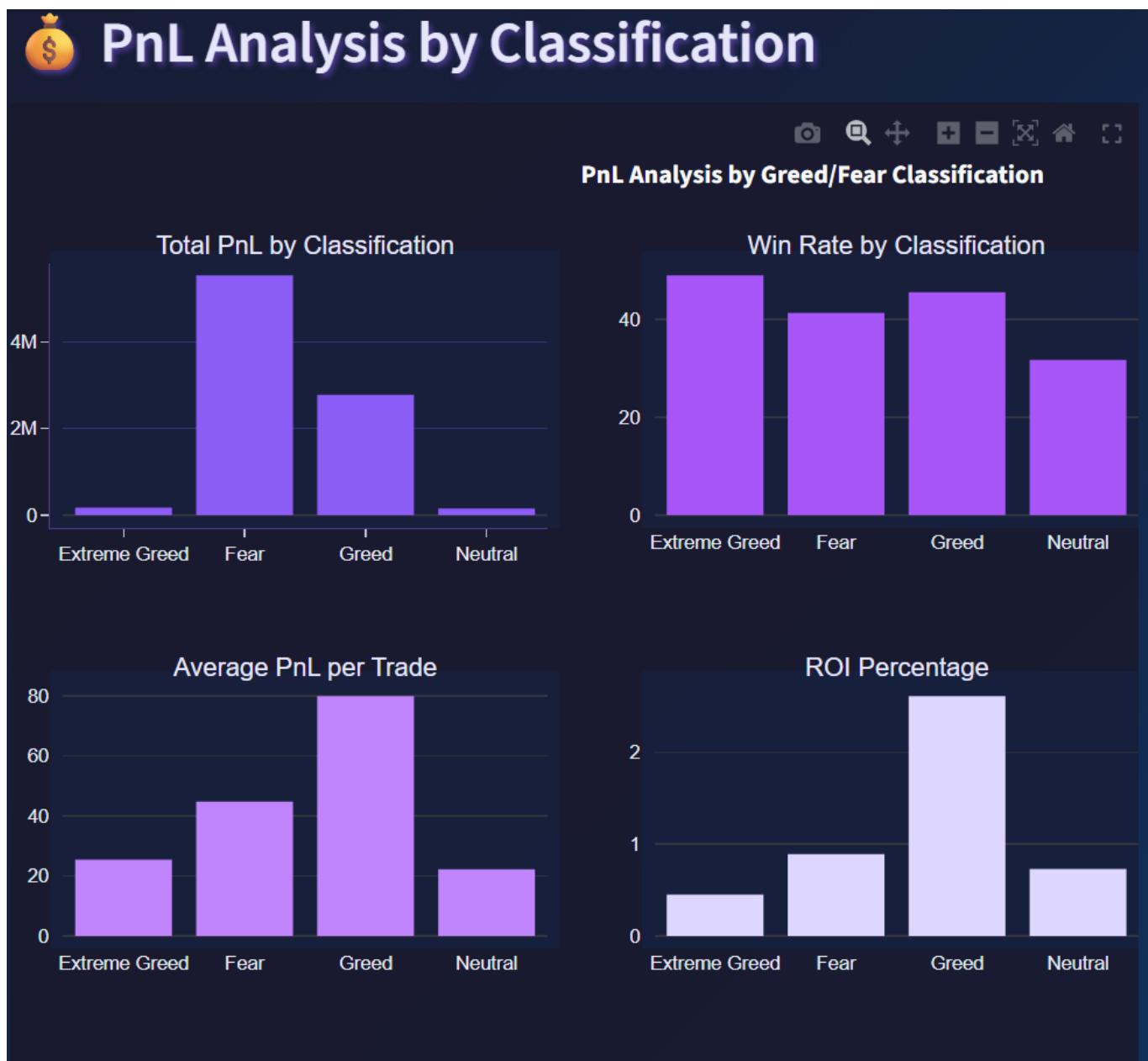
This report presents a comprehensive exploration of Bitcoin trading behavior using sentiment-driven analysis derived from the **Greed & Fear Index**. It analyzes over **184,000 trades** spanning various sentiment classifications, order types, and trading directions to develop a robust strategy.

2. Dataset Overview

Metric	Value
Dataset Size	184,263 trades
Total Trading Volume (USD)	\$880,912,169.43
Total Fees Paid	\$184,908.74
Net PnL	\$10,225,249.60
Most Active Classification	Fear
Preferred Trading Side	Sell

3. PnL Behavior by Sentiment

Classification	Total PnL	ROI (%)	Win Rate (%)	Avg PnL	Profit Factor
Fear	\$6.69M	0.95	41.51	50.04	5.97
Greed	\$3.19M	2.76	44.65	87.89	7.22
Extreme Greed	\$176.9K	0.45	49.01	25.42	3.21
Neutral	\$158.7K	0.72	31.72	22.22	1.96



🔍 Key Insights:

- **Best Total PnL:** Fear
- **Best ROI:** Greed
- **Best Win Rate:** Extreme Greed

⌚ 4. Buy/Sell Behavior Analysis

Classification	Avg Buy Price	Avg Sell Price	Price Spread
Neutral	\$2788.39	\$2542.39	N/A
Fear	\$12,494.39	\$9,744.83	\$-2,749.56
Greed	\$6,966.71	\$4,439.98	\$-2,526.73
Extreme Greed	\$9,769.03	\$9,774.59	\$5.56



🔍 Key Insights:

- **Buy at:** Neutral (lowest entry price)
- **Sell at:** Extreme Greed (highest exit price)
- **Largest Spread:** Extreme Greed → \$5.56

⌚ 5. Order Type Analysis (Market vs Limit)

Order Type	Total PnL	Avg PnL	Win Rate (%)	Total Fees Paid
Limit	\$5.59M	66.67	49.6	\$16,694.52
Market	\$4.63M	29.89	37.2	\$168,214.31



🔍 Key Insights:

- **Better Order Type:** Limit Orders
- Lower fees & higher ROI observed with limit orders

📊 6. Greed/Fear Index Value Analysis

Index Value	Total PnL	Avg PnL	Win Rate (%)	Avg Price
44.0	\$6.69M	50.04	41.51	\$11,102.06
74.0	\$3.19M	90.50	45.16	\$5,367.50
84.0	\$176.9K	25.42	49.01	\$9,771.90



🔍 Key Insights:

- **Most Profitable Index:** 44.0
- **Highest Win Rate:** 84.0
- **Value–PnL Correlation:** 0.0111 (weak)

📈 7. Directional Trading Performance

Strategy	Total PnL	Trade Count	Win Rate (%)
Short	\$7.04M	78,842	48.11%
Long	\$3.11M	105,156	37.49%



🔍 Key Insights:

- **Best Direction:** Short
- Most profitable direction: **Close Short**

">\$ 8. Execution Price Volatility

Classification	Avg Price	Std Dev	CV (Volatility)
Neutral	\$2663.13	\$10,895	4.09
Greed	\$5513.71	\$20,927	3.80
Fear	\$11102.05	\$29,350	2.64
Extreme Greed	\$9771.89	\$17,267	1.77



⌚ Key Insights:

- **Most Volatile:** Neutral
- **Stable Price:** Extreme Greed

📋 9. Strategy Matrix & Rankings

Classification	Total PnL	ROI (%)	Win Rate (%)	Avg Price	Volatility
Greed	\$3.19M	2.76	44.65	\$5513.71	3.80
Fear	\$6.70M	0.95	41.51	\$11102.05	2.64
Extreme Greed	\$176.9K	0.45	49.01	\$9771.89	1.77
Neutral	\$158.7K	0.72	31.72	\$2663.13	4.09

💼 10. Strategic Recommendations

Entry Strategy:

- **Buy during Neutral:** Lowest entry prices
- **Go Long in Fear:** High volume + upward reversal
- **Use Limit Orders:** Reduce costs, improve ROI

Exit Strategy:

- **Sell in Extreme Greed:** Maximize profits
- **Exit Longs in Greed:** Euphoria marks peak
- **Monitor sentiment trends** to time exits

⚠ Risk Management:

- Use **stop-losses based on volatility**

- **Diversify** across sentiment conditions
 - Track **PnL vs Index value correlation**
-

📝 11. Strategy Simulation Results

Simulated Strategy: Buy during **Neutral** → Sell during **Greed** or **Extreme Greed**

Metric	Value
Avg Buy Price (Neutral)	\$2789.89
Avg Sell Price (Greed)	\$5271.13
Potential Profit/Token	\$2481.24
Potential ROI	88.94%

✳️ 12. Conclusion

This analysis supports a **mean-reversion strategy** centered around **neutral entry (buy)** and **greedy exit (sell)**, supplemented by short positions during market peaks. The **Greed/Fear index** enhances trade timing precision and helps construct a **risk-aware sentiment-driven strategy**.

🛠️ Built With

- 📈 Streamlit + Plotly Dashboard
- 📊 Pandas, NumPy, EDA Techniques
- 📱 Greed/Fear Index Classification