Project Proposal

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In this project, I decided to analyze Bitcoin, Fear and Greed Index and the S&P 500 data set. I have been following and interested in the crypto market for a long time, I invest at my own level. My motivation in this project is to examine whether the crypto side, which is a modern investment tool, has a relationship with S&P 500, which are traditional investment tools. I think there is a high correlation between them and I believe that future price prediction can be made using this data and machine learning methods. Also, I wonder if the prices of Bitcoin, Fear and Greed Index, and the S&500 repeat in a cycle over time?
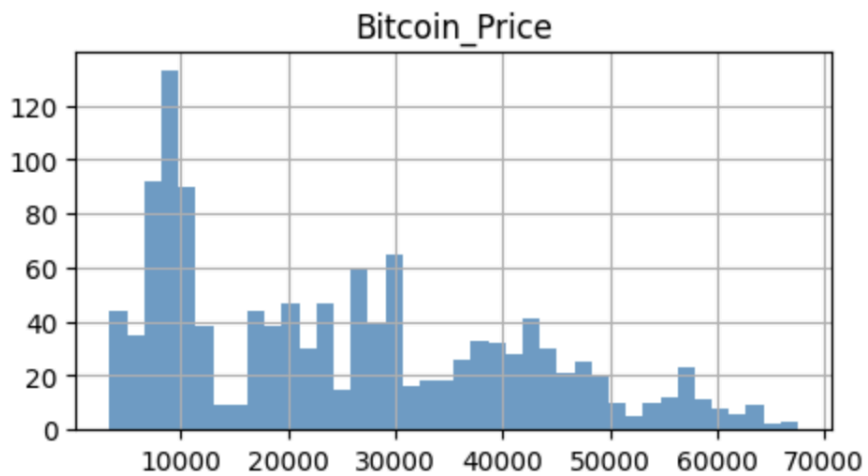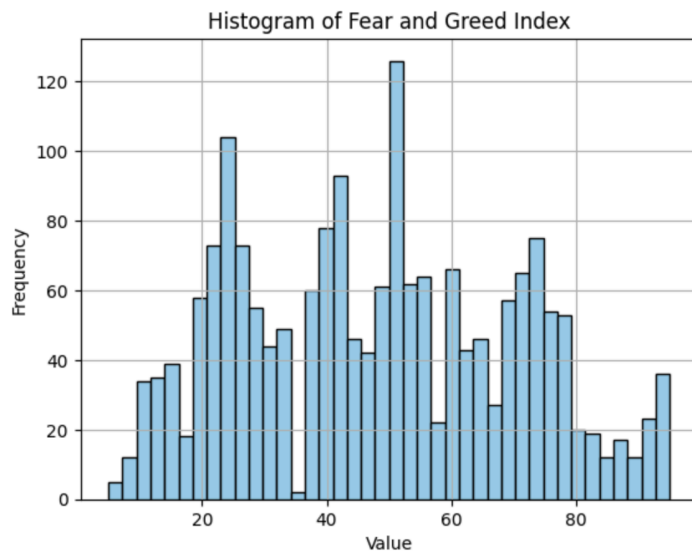
Linking datasets on the Fear and Greed Index, Bitcoin, and the S&P 500 index offers a singular chance to investigate the relationship between traditional and digital assets in the context of larger economic developments. Bitcoin has gained popularity as an alternative investment vehicle for institutional and individual investors looking to diversify their portfolios and hedge against more conventional financial products like stocks. The Fear and Greed Index is a sentiment indicator used in financial markets to gauge investors' emotions and market sentiment. Conversely, the S&P 500 index functions as a standard for evaluating the performance of the American stock market.
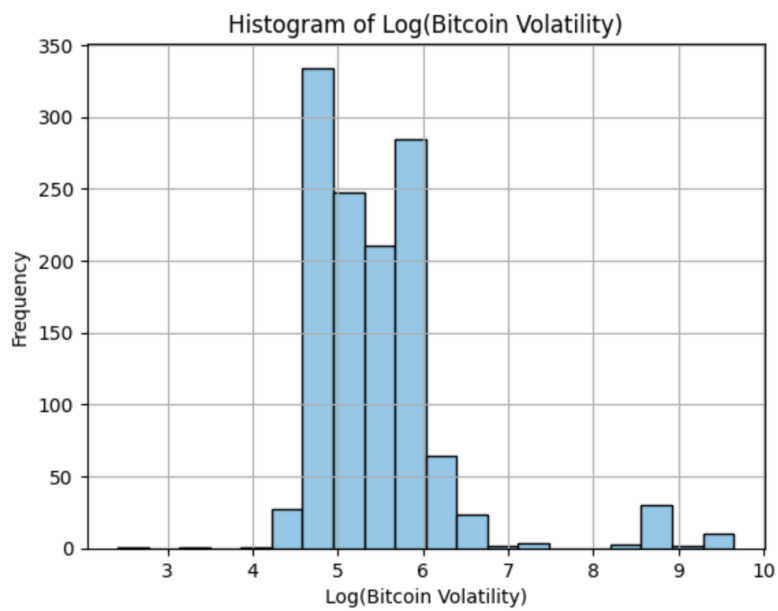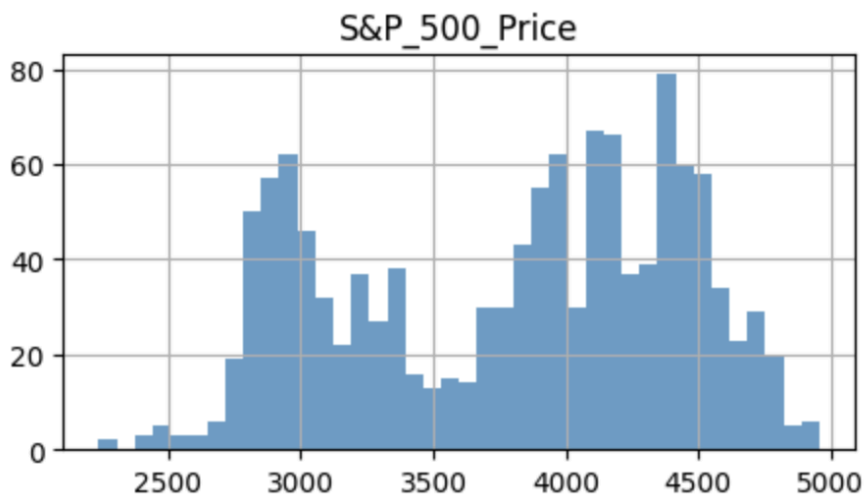
I think examining the relationships between Bitcoin, Fear and Greed Index and the S&P 500 will yield interesting results as possible correlations between various asset classes are traditional and modern investment tools. By analyzing the relationships between them, I can understand which one is more beneficial to choose in many matters, and I have a motivation to predict future prices using machine learning methods.

Extra data source : https://alternative.me/crypto/fear-and-greed-index/#api

Histograms

These are histograms for Bitcoin price and volume, Fear and Greed Index and S&P 500 prices. Each histogram will show the distribution of prices for the respective asset.

Histogram of Fear and Greed Index

Bitcoin_Price

S&P_500_Price

Histogram of Log(Bitcoin Volatility)

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Scatter Plots

Finally, using scatter plots for comparing data sets, such as Bitcoin, Fear and Greed Index, and the S&P 500, can be insightful for understanding relationships between variables or observing trends over time.