

Project scope update

The project scope is still the same, which is analyzing the correlations among Fear and Greed Index, Bitcoin Price, and the S&P Cryptocurrency Broad Digital Asset (BDA) Index. In particular, the S&P Cryptocurrency Broad Digital Asset (BDA) Index is the cryptocurrency market benchmark index. This benchmark index is designed to track the performance of a wide range of investable digital assets that meet specific liquidity and market capitalization criteria. The Fear and Greed Index measures crypto market sentiment. This index provides insights into whether the market may be undervalued or overvalued.

Data sources

For the timeframe, I chose the historical data timeframe to be from 05/02/2024 to 11/06/2025.

The number of rows is 554, which corresponds to 554 days, around one and a half years.

All three datasets are within this timeframe.

The Fear and Greed Index and the Bitcoin Price historical data are both obtained through writing python code and calling API. The BDA Index is obtained from the S&P Global website.

Note that Fear and Greed Index and the Bitcoin Price historical data have both 554 rows.

However, for BDA Index, there are smaller numbers of rows. The BDA Index data file contains 396 rows. The reason is that S&P Global didn't have the values on weekends, there are only values on weekdays. While the other two datasets have values on both weekdays and weekends.

For the API, I use the coinmarketcap API. I provided the code to retrieve the historical data in the [load.py](#) file inside the src folder.

When calling the coinmarketcap API to retrieve the fear and greed index, the API endpoint itself has a query limit. It only allows up to 500 numbers of results to return. Thus, in the [load.py](#), I called that API endpoint twice in order to retrieve those 554 number of days. The first call is to get the most recent 500 days, and then the second call is to get the values from day 501 to day 561. After I got the two excel files generated from the code, I manually combined those two excel files and truncated the rows to be within the timeframe from 05/02/2024 to 11/06/2025.

<https://coinmarketcap.com/api/documentation/v1/#tag/fear-and-greed>

<https://coinmarketcap.com/api/documentation/v1/#operation/getV2CryptocurrencyOhlcvHistorical>

Issues / difficulties

There are currently no difficulties in terms of retrieving the data. I did clarify how the API works and what are some limits of the query size in calling certain API endpoints. I right now have all the data files ready and in the format and timeframe I want. I have also produced some data visualizations to analyze the correlations between those indexes. I updated the code in [visualize.py](#) file.