Bitcoin Price Prediction & Sentiment Tool

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OVERVIEW
&
PROBLEM STATEMENT

Project Focus: This project aims to forecast the price of Bitcoin and analyze sentiment related to Bitcoin on Twitter using machine learning techniques. The project utilizes historical Bitcoin price data, Google search trends for Bitcoin, and a large collection of tweets about Bitcoin to build predictive models.

PROPOSED VISION FOR TACKLING THE PROBLEM

Step 1

Collecting the datasets

Step 2

Performing data cleaning

Step 3

Combining the datasets, feature engineering, preprocessing and EDA

Step 4

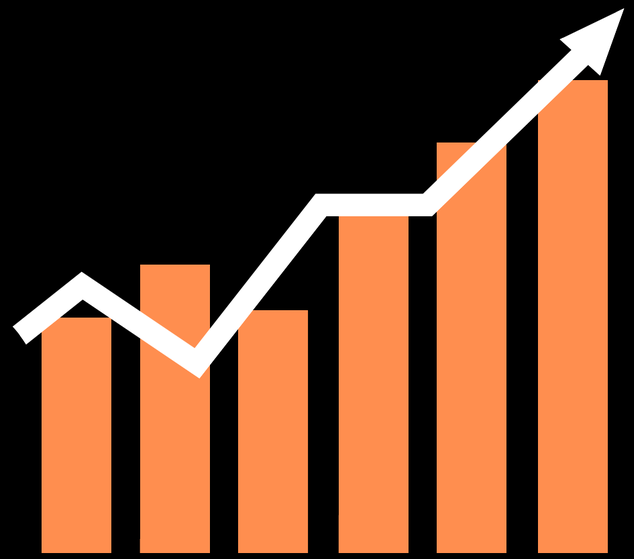
Conducting analysis from modelling

Step 5

Drawing conclusions

ESTIMATE IMPACT OF SOLUTION

The insights gained can be valuable for traders, investors, and researchers interested in understanding the influence of public sentiment on cryptocurrency prices.



DATASET
AFTER CLEANING
(+ Google Trends)

	Colmn Name	Data Type	Description
0	Time	String	Time in days
1	Open	Float	Open price of bitcoin
2	Percent change in price (close/open)	Float	The percent change of the open price to the cl...
3	Close	Float	Close price of bitcoin
4	BTC Dominance Open	Float	The opening percent marketshare of Bitcoin
5	Percent change in dominance (close/open)	Float	The percent change in Bitcoin marketshare each...
6	BTC Dominance Close	Float	The closing percent marketshare of Bitcoin
7	Volume	Float	The total bitcoin volume per day on the exchan...
8	RSI (relative strength index)	Float	The Relative Strength Index (RSI) is a well ve...
9	HV (historical volatility)	Float	Historical volatility is a statistical measure...
10	Cleantext	String	Text of each individual tweet
11	bitcoin_tweetcount	Integer	Total tweets including the keyword bitcoin per...
12	btc_tweetcount	Integer	Total tweets including the keyword btc per day
13	crypto_tweetcount	Integer	Total tweets including the keyword crypto per day
14	cryptocurrency_tweetcount	Integer	Total tweets including the keyword cryptocurre...
15	project_tweetcount	Integer	Total tweets including the keyword project per...
16	total count_tweetcount	Integer	Total tweets per day

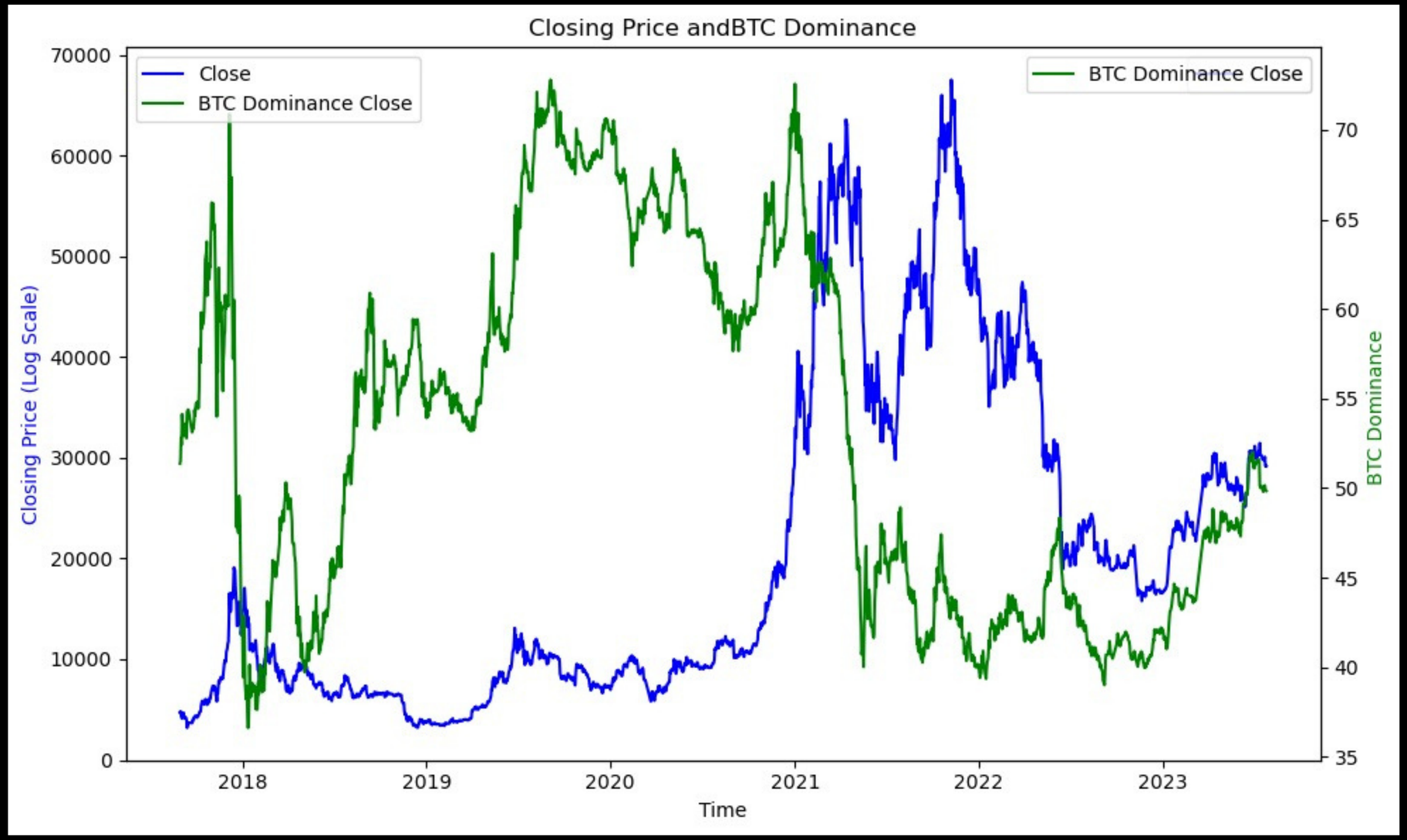
DATA QUALITY CONCERNS

Dataset timeline

Only on monthly timeframe

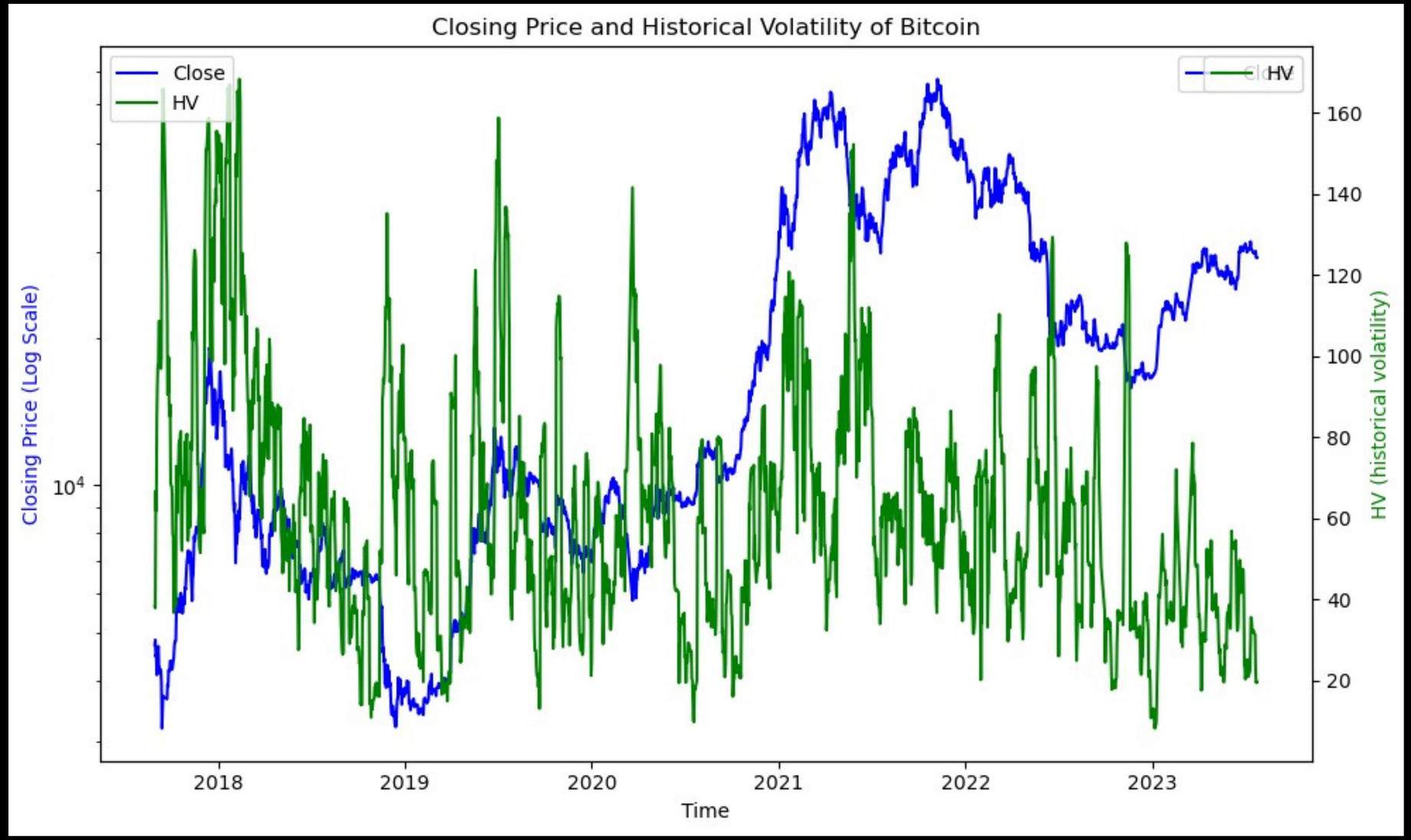
DATA VISUALIZATIONS

CLOSING PRICE & BTC DOMINANCE



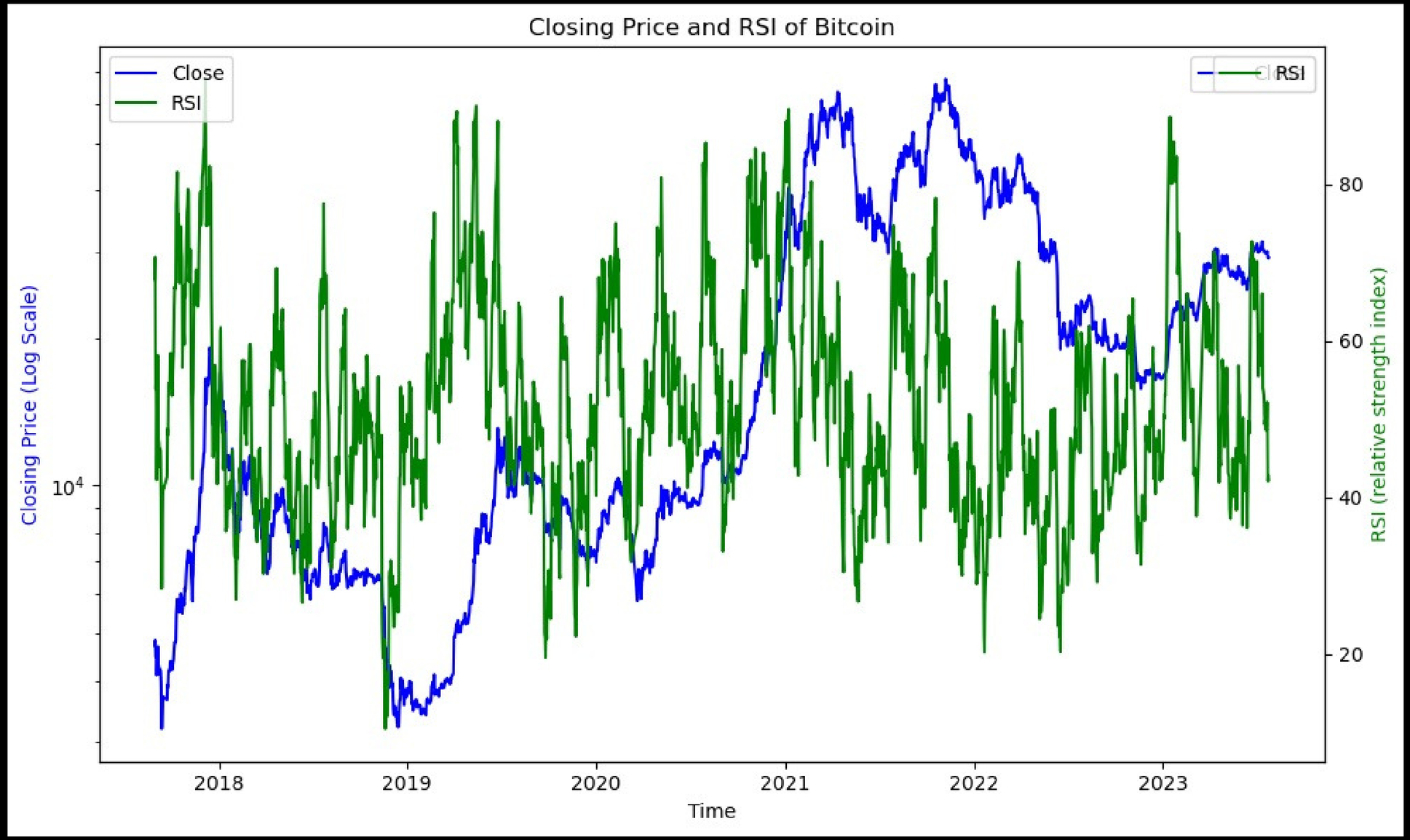
DATA VISUALIZATIONS

CLOSING PRICE & HISTORICAL VOLATILITY OF BITCOIN



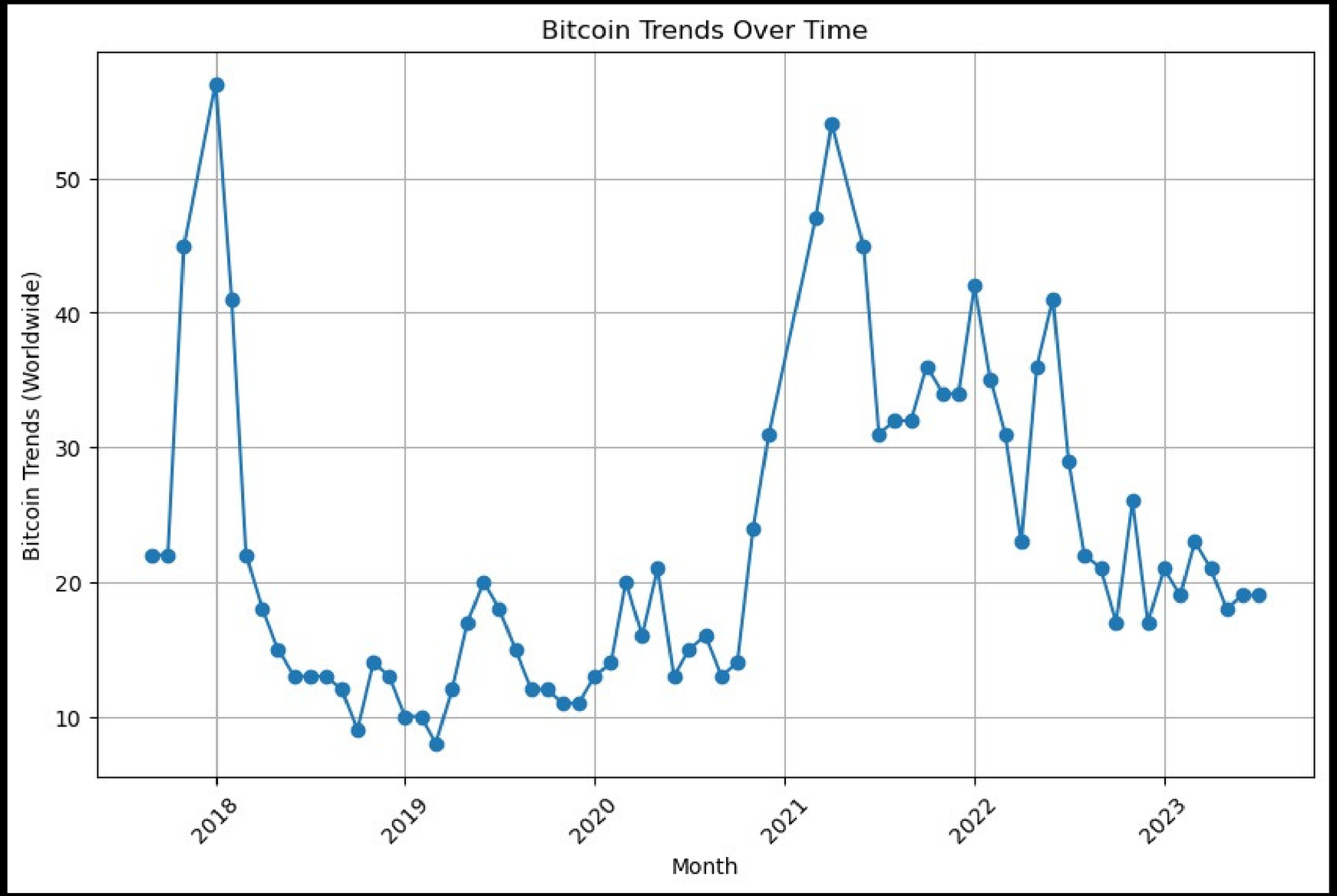
DATA VISUALIZATIONS

CLOSING PRICE & RSI OF BITCOIN



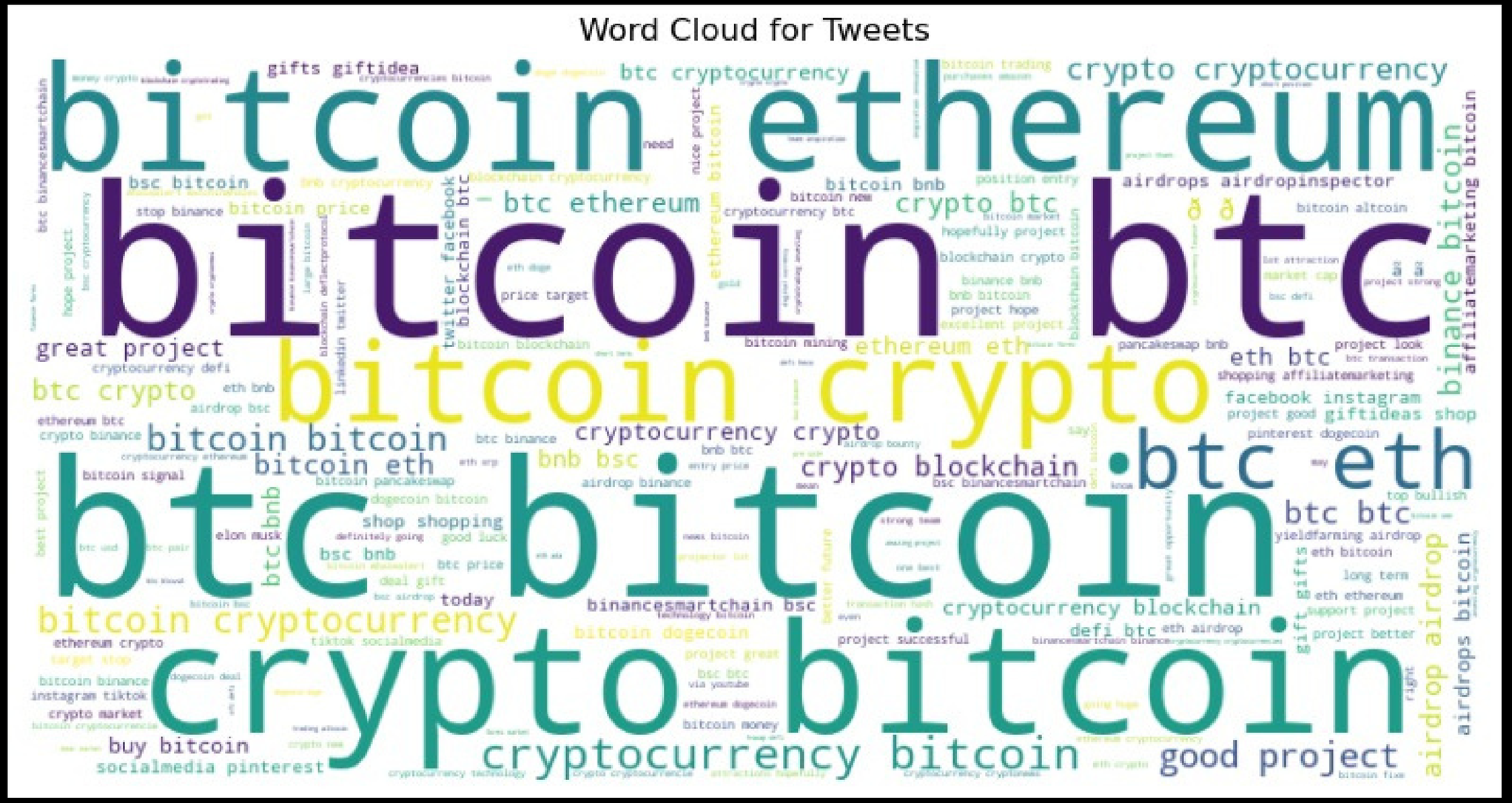
DATA VISUALIZATIONS

GOOGLE TRENDS



DATA VISUALIZATIONS

TWEET WORD CLOUD


Word Cloud for Tweets
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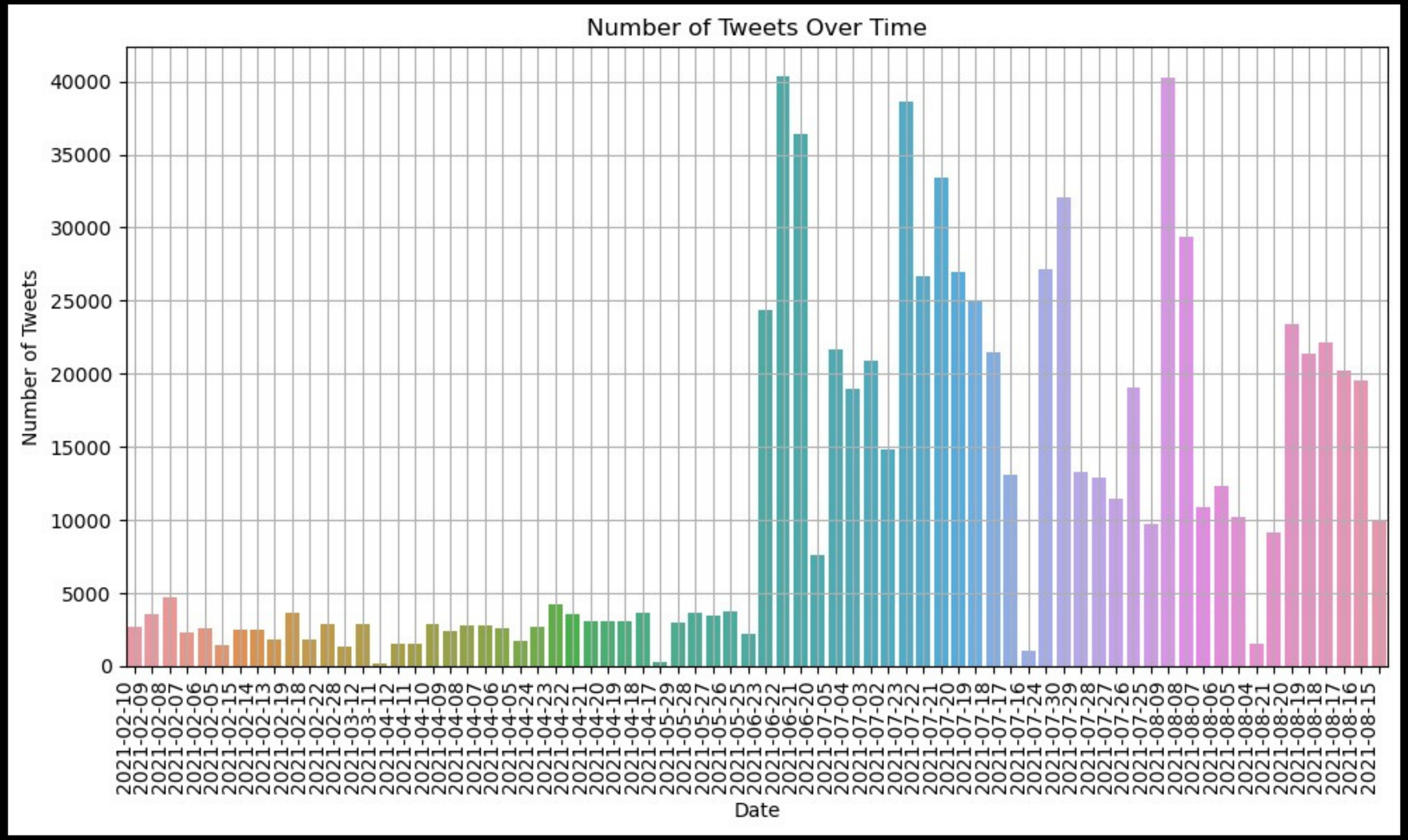
ethereum eth
bitcoin blockchain
price target
bsc bitcoin
bnb cryptocurrency
blockchain

DATA VISUALIZATIONS

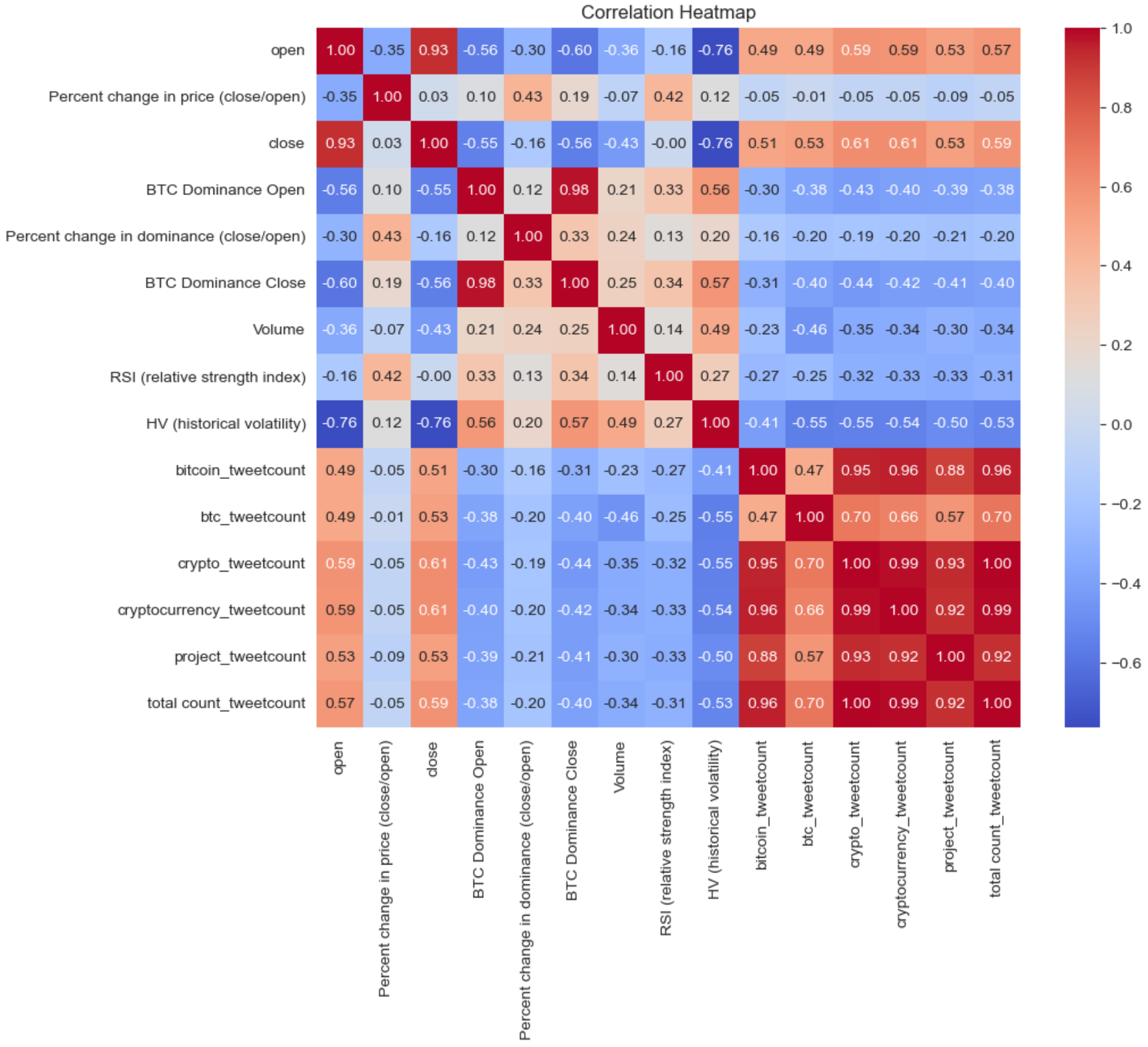
NUMBER OF TWEETS OVER TIME



DATA VISUALIZATIONS

TWEET WORD CLOUD

HEATMAP OF DATASET



NEXT STEPS

- Time-Series Analysis
- Building predictive models

+

- Conducting sentiment analysis