Bitcoin and cryptocurrencies sentiment analysis

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Short description of the project

My goal is to be able to determine the dominant sentiment in the cryptocurrencies market and identify its impact on the evolution of the price.

Type of project

Bring your data and bring your own method

Datasets

I want to compare the results of sentiment analysis on 2 different datasets and verify that a similar result is obtained.

Dataset 1 : I will extract tweets from Twitter where part of the crypto community is particularly active.

Dataset 2 : I will also use Youtube comments from different crypto channels, french and american.

A big part of the project will consist in labeling a training set to feed the neural network.

Further information

I am only focusing my research about the crowd' (retails) sentiment and I deliberately omit analyzing the actions and declarations of institutions.

Challenges of the project :

-extract relevant data

-create a neural networks that correctly classifies tweets or comments as bullish or bearish (maybe add a neutral class)

-establish a fear and greed index based on the classified data

-establish a correlation between the price evolution and the global sentiment

What is already possible

1) Wankhade, M., Rao, A.C.S. & Kulkarni, C. A survey on sentiment analysis methods, applications, and challenges. Artif Intell Rev 55, 5731–5780 (2022). https://doi.org/10.1007/s10462-022-10144-1

This paper stands as state of the art in sentiment analysis, providing with a wide range of methods and current results in different fields.

2) Arslan, S. Bitcoin Price Prediction Using Sentiment Analysis and Empirical Mode Decomposition. Comput Econ (2024). https://doi.org/10.1007/s10614-024-10588-3

This second paper explains in more details the methodology of sentiment analysis in the specific case of cryptocurrencies. The researchers also try to predict the evolution of the price based on that sentiment.

Work Breakdown

Data collection : 30 Hours

Designing and building the network : 15 Hours

Training and fine tuning-tuning the network : 25 Hours

Building an application to present the results : 20 Hours

Writing the final report : 10 Hours

Preparing presentation of your work : 8 Hours