**Project Idea**: Cryptocurrency price predictor bot

**Project reference:** <https://towardsdatascience.com/cryptocurrency-price-prediction-using-deep-learning-70cfca50dd3a>

[Predicting Cryptocurrency Prices using AI/ML](https://pirimidtech.com/predicting-cryptocurrency-prices-using-ai-ml/)

**How to get data?** <https://medium.com/coinmonks/how-to-get-real-time-crypto-market-data-522a102f7f4a>

**How does it work: Graph reading (technical analysis)**

**Preferable model to be used:** LSTM NN

LSTM: **Long short-term memory** (**LSTM**) is an artificial [recurrent neural network](https://en.wikipedia.org/wiki/Recurrent_neural_network) (RNN) architecture used in the field of [deep learning](https://en.wikipedia.org/wiki/Deep_learning). Unlike standard [feedforward neural networks](https://en.wikipedia.org/wiki/Feedforward_neural_network), LSTM has feedback connections. It can not only process single data points (such as images), but also entire sequences of data

We have to use **deep learning** to implement the bot. What is deep learning?

Deep learning is an [artificial intelligence (AI)](https://www.investopedia.com/terms/a/artificial-intelligence-ai.asp) function that imitates the workings of the human brain in processing data and creating patterns for use in decision making. Deep learning is a subset of [machine learning](https://www.investopedia.com/terms/m/machine-learning.asp) in artificial intelligence that has networks capable of learning unsupervised from data that is unstructured or unlabeled. Also known as deep neural learning or deep neural network.

**Why to choose this project?** 2021 is the cryptocurrency bull run, where people are investing in different currencies that are considered to be easy profit by the end of this year.

**What is CryptoCurrency?** A cryptocurrency (or “crypto”) is a digital currency that can be used to buy goods and services but uses an online ledger with strong cryptography to secure online transactions. Much of the interest in these unregulated currencies is to trade for profit, with speculators at times driving prices skyward.

**Why are cryptocurrencies so popular?**

* Supporters see cryptocurrencies such as Bitcoin as the currency of the future and are racing to buy them now, presumably before they become more valuable
* Some supporters like the fact that cryptocurrency removes central banks from managing the money supply since over time these banks tend to reduce the value of money via inflation
* Other supporters like the technology behind cryptocurrencies, the blockchain, because it’s a decentralized processing and recording system and can be more secure than traditional payment systems
* Some speculators like cryptocurrencies because they’re going up in value and have no interest in the currencies’ long-term acceptance as a way to move money

**What moves the cryptocurrency markets?**

Cryptocurrency markets move according to supply and demand. However, as they are decentralized, they tend to remain free from many of the economic and political concerns that affect traditional currencies. While there is still a lot of uncertainty surrounding cryptocurrencies, the following factors can have a significant impact on their prices:

* Supply: the total number of coins and the rate at which they are released, destroyed, or lost
* Market capitalization: the value of all the coins in existence and how users perceive this to be developing
* Press: the way the cryptocurrency is portrayed in the media and how much coverage it is getting
* Integration: the extent to which the cryptocurrency easily integrates into existing infrastructure such as e-commerce payment systems
* Key events: major events such as regulatory updates, security breaches and economic setbacks

Plan to do the bot:

1- Train the model on some data

2- Test the model on the real time data and compare the prediction result

3- Try to improve the model

4- Add the web scraping feature, the would help to improve the prediction. (most important news, ex: Elon Musk tweets, Wall Street statements, European central bank statements, and different crypto experts)

5- Keywords to check: Dip, Pump, resistance, support, …

How are we going to tackle the problem?

First, we’re going to get the market data and do technical analysis on the candles’ pattern.

Second, we’re going to gather data from Twitter and google trends that may affect the market.

Finally, we’re going to train our model on our dataset, then choose the best parameters after doing hyperparameter tuning to make our model more accurate.