Literature Presentation

CS-492A

Group: CryptOL™

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Review of other work:

The complex subject of crypto currency price prediction is constantly flooded with new information, opinions and techniques. After doing some deep digging and technical analysis of competitor software our group came up with two software products that rival and/or resemble our current project CryptOL™. They are as follows:

Crypto Forecast: AI predictions (<https://play.google.com/store/apps/details?id=com.studiothirtyone.cryptoforecast&hl=en_US&gl=US>) – **Commercial Application Available for Download**

And

Nirav Prajapati from Pirimid Fintech exercise (<https://pirimidtech.com/predicting-cryptocurrency-prices-using-ai-ml/>) – **Open Source GitHub Repository**

Comparison between CryptOL™ and other work:

First let’s look at Crypto Forecast, the AI predictions Android app. This product is a fully finished product that uses a neural net model for predictions. The following description is taken from the app abstract:

*Crypto Forecast provides state-of-the-art predictions of cryptocurrency prices generated by the Neural Network specifically trained for this purpose.*

*Crypto is the world's fastest growing financial instrument. With us you can execute profitable trades with Investment Advice functionality that incorporates future prices generated by our AI: you will no longer need to spend hours analyzing price movements - get the Buy or Sell action in just one tap!*

*Our app provides a wide variety of features: from hourly and daily price predictions of the most popular cryptocurrencies to the sentiment analysis, news and market stats. Supported coins include Bitcoin, Ethereum, Litecoin, Ripple, Bitcoin Cash and EOS.*

*Not enough? With Crypto Forecast you can create custom predictions that are tailored for you specific needs: choose between 30 different coins and 5 time intervals to get a prediction generated just for you.*

*Stats don't lie! The accuracy of our hourly predictions is always close to 100%, which is perfect if you want to perform intraday trades. Running long? Don't worry - we have that ground covered as well!*

While this application is fully finished and utilizes one of the algorithms that CryptOL™ app uses, its limitation is in that single algorithm and therefore these competitors' best feature is the interface and quality of the GUI as well as how some statistical data is presented. Where CryptOL™ in its current state is an unrefined GUI with just 3 algorithmic models and a neural net algorithm in the works.

The second competitor is Nirav from Pirimid Fintech and his open-source LSTM Neural Net model. After doing this research the superiority of this model became very clear. Here is an excerpt from the paper on topic of the project:

*PREDICTING “CLOSE PRICES” USING LSTM NEURAL NETWORK*

*Overall, below are the steps we followed to predict “close prices” using LSTM neural network.*

· *Building LSTM model using Keras*

· *Normalizing data using MinMaxScaler from Scikit-Learn.*

· *Re-framing of data for supervised learning using Pandas*

· *Training LSTM model on training data set*

· *Testing/Predicting close prices*

*Given that we are dealing with time series data, LSTM is well suited. Long short-term memory (LSTM) units (or blocks) are a building unit for layers of a recurrent neural network (RNN). An RNN composed of LSTM units is often called an LSTM network.*

We will be integrating this open-source model as part of our multi algorithm package. While our web-based application allows us to integrate multiple AI models for cross comparison, the quality of each model and the accuracy of their predictions is coveted. In the future, multiple algorithms will use parts of each currently functioning prediction algorithm in synchrony. Therefore doing research on our competitors and predecessors in this case allowed us to improve our product immediately up on the discovery from research.