Crypto Currency Trading Prediction

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Abstract

Based recent advancements in natural language processing, computer vision and robotics, a grow number researchers and traders attempt to predict future asset prices using deep learn techniques. Typically, the goal is to find out profitable and at the same time low-risk trading strategy. However, it is not straightforward to evaluate a found trade strategy. Evaluating solely on historic price data neglect the important factors arising in real markets. In this paper, we analyze the impact of real-world market conditions in terms of trading fee, borrow interests, slippage and spreads on trading returns. For that, we propose a deep learning trading bot basedupon. Temporal Convolutional Networks, which is deploye to a real cryptocurrency exchange. We compare the results obtainedin the real time market with simulated returns and investigate the impact of the different real-world market conditions. Our results show besides trading fees (which have the biggest impact on returns), factors like slippage and spread also affect the returns of the trading strategy.

Keywords: Deep Learning, SVM, Fraud Detection, Privacy, Mining

Introduction

This paper survey research work applying artificial intelligence and machine learning techniques in the field of cryptocurrencies. Analyzing cryptocurrencies is to considered a relatively recent domain that became active in the last decade. Bitcoin is announced at the end of 2008 as the first decentralized cryptocurrency that relies heavily on the field of cryptography for hashing and signing transactions. These are transactions are committed to a distributed blockchain ledger to be synced and verified by nodes in a peer-to-peer network. The Bitcoin blockchain size has reached over 280 GB in June, 10. 2020.

Machine Learning: Machine getting to know AI Application and had been successfully made with inside the gift international for the analysis.

Artificial intelligence (AI) techniques can learn from this massive amount of data by analyzing and discovering patterns to ease and secure trading and mining. Discovering patterns in money-laundering transactions and other fraudulent transactions and trading schemes can helps limit the crimes involving cryptocurrencies due to privacy and security threat Artificial intelligence (AI) technique are not limited to machine learning (ML) techniques (supervised, unsupervised, semi-supervised, and reinforcement), but also include evolutionary-based techniques and knowledge-based technique.

Literature Survey

Previous work has been worked out using machine learning and various models for automated DR screening. For development of our method and result analysis.

GiriBabu Kandect al [7] represented Segmentation of Vessels in Fundus using Spatially Weighted Fuzzy c-Means Clustering an algorithm for obataining from Fundus currency. They used a group of linear filters sensitive to data of various thickness and orientation. A data currency detection methods recently reported within the literature is easy and an experimental evaluation demonstrates excellent performance over global thresholding. Their algorithm were expected to be applicable to a range of other applications because of its simplicity and general nature. Bob Zhang et al [8] described a mothod for predicting coin estimate time.

Methodology

Price Prediction

The attention of Bitcoin and other cryptocurrencies as financial assets has grown dramatically in the last three years. This is after the hype occurred by the end of 2017 when the price of Bitcoin reached about 20,000 USD. For the esteem trading cryptocurrencies, domain observers and traders need to do Bitcoin/cryptocurrency analytics and to predict the cryptocurrency price. The terms in "price prediction" and "price forecasting" are usually used in the same way to refer to the task a predicting an estimate for the price based on the history of past prices and other explanatory variables. The term said "prediction" is more general as it refers to either prediction of the current or next prices while forecasting is used to refer to making estimates about the future prices or trends. The term say "prediction" is widely used by researchers so it is adopted in the rest of this survey. The price of Bitcoin can be affected by many factors (sometimes called indicators/markers/features or variables), among them are the interaction between supply, demand and attractiveness for investors. These factors are usually affected by trends in social networks, forums, search engines, declarations by leaders and political stability of countries. Past fluctuations in cryptocurrency's price or trades' growth/decline can be used to determine possible trends and predict what could happen in the future.

Using Neural Network Base Model

Young et al. use a deep learning model to predict Bitcoin price and extent of transactions fluctuation of the currency. Deep learning also used in to predict Bitcoin and Ethereum prices in Australian dollars (AUD). A comparative study of the different deep learning models (deep neural network (DNN), long-short term memory (LSTM) and artificial neural network (ANN)) was done in [20] for Bitcoin price prediction. LSTM-based prediction models slightly was outperformed other techniques for regression of Bitcoin price while DNN-based models performed better for classification of price changes whether up or down. They also showed that the classification models were more effective than regression models for trading profitability.

Volatility Prediction

Volatility defined as the degree of variation of a trading price series over time. It is represents the amount of uncertainty or risk about the size of changes in currency value. Bitcoin and other cryptocurrencies are consider to be volatile. Figure shows

a graph for cryptocurrencies' prices until the start of March 2020. Volatility of the cryptocurrencies is mainly caused by their decentralized nature making their prices uncontrollable by any organization or government. According, cryptocurrencies can be considered as being traded in a free market where the price is solely determined by the supply and demand, however, there are other opinions that oversee the presence of a true long-run dependency which invalidates the efficient market hypothesis. There are other factors affecting the price value, other than the interaction between supply and demand as mentioned in the last section. People investing in Bitcoin consider high volatility to be an indication of high-risk investment. Volatility accounts for price movement away from it.

Results and Discussion

Technology advances have impacted the cryptocurrencies evolution by creating new ways to mine new coins, store the block chains over distributed nodes, secure the network and analyze the huge amount of trades and block chain transactions that are beyond human capabilities. In this study, we presented a survey for the state-of-art research that makes use of artificial/ machine intelligence techniques to address the challenges facing cryptocurrencies. The AI research stud addressing Bitcoin are remarkably more than those researching other altcoins. The possible dependencies between cryptocurrencies' prices should be further identified. The possibility of using AI techniques to address security, anonymity and privacy level of other cryptocurrencies is recommended for further exploration as security and privacy are major and critical concerns for traders to gain more trust while trading.
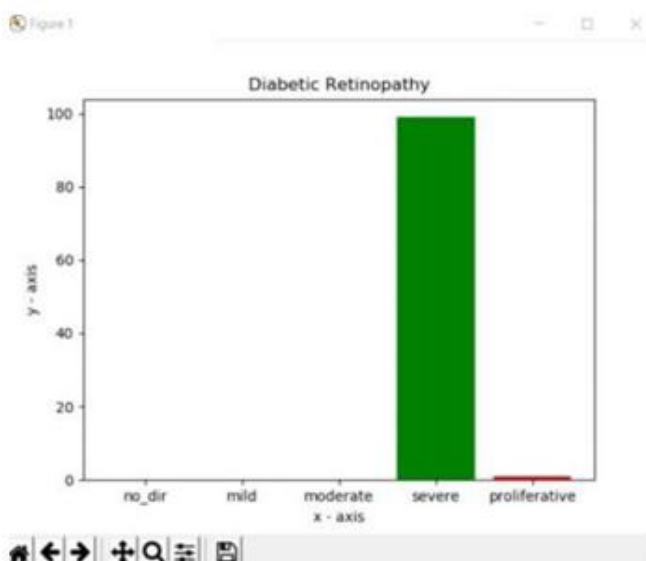

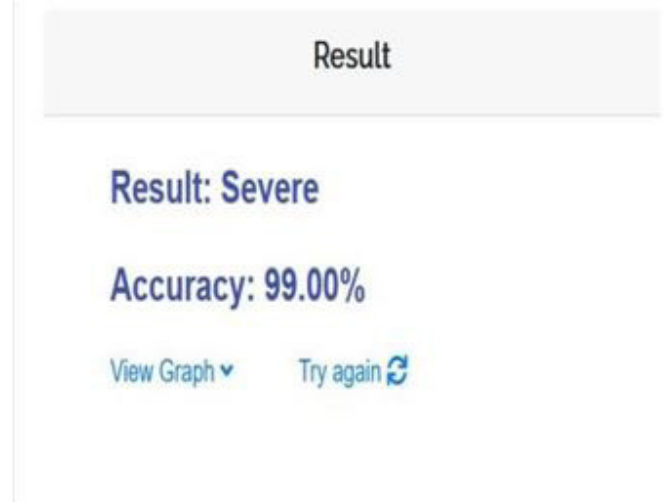**Figure 1:** Output of the given dataset image

Figure 2: Accuracy of the model

Conclusion

In summary, this survey navigates through and organizes the vast amount of diverse research work that applies AI techniques in the field of cryptocurrencies. The state-of-art research efforts were classified into six classes. For eachclass there is a comparison of different research work according to the used techniques and datasets was provided. We highlighted possible research gaps and open directions that require future development in this highly dynamic field. Although we have not cited all the research papers in the field, yet we did our best to cite recent papers that investigated a wide spectrum of different AI techniques to tackle difficulties. This survey can greatly help researchers interested in the application of AI and machine learning techniques in the field of cryptocurrencies. It gives them a quick, yet full, overview of this multidisciplinary area; through presenting simplified reviews of some of the research done in this area and the used techniques while listing some of the available datasets they used to address the different cryptocurrencies.

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