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Stock Market Forecasting Using Stacked LSTM Deep Learning System

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Abstract

Background: As of late, there has been a quickly developing revenue in deep learning research & their application to genuine issues. In this exploration, we have developed & applied the state of the art deep learning consecutive model, as specific Long short Term Memory Model (LSTM) Stacked- LSTM [1].As concluded by Fama in[2] financial time series forecast is known to be a famously troublesome task. Wang et al. [3] utilised artificial neural networks to stock market price prediction in 2003 and concentrated on volume.

Objectives: The work mainly focuses on stock market prediction in the coming days. We use parameter tuning using LSTM where we lessen the RMSE value and error of our prediction.

Methodology: The methodology used in this research consists of prediction of stock market in the coming 30 days using Stacked LSTM in Deep Learning. Finally, the approach and findings are assessed and validated in order to be applied to future forecasting prices.

Result and discussion: In this research, we attempted to anticipated the bitcoin price. There are more than 5k cryptocurrencies available right now. The previous day trend following" method yielded about 85% profits. Now outperforming this trading approach which returned about 38%, and this strategy was based on the single best MLP model, which returned around 53%. Bitcoin (BTC) & Ethereum (ETH) recovered better in 2018 rather than Ripple (XRP) [4].Hence we state the recent RMSE value of Bitcoin is 15.5331.

Conclusions and Future Work: Our future efforts will be focused on developing an accurate and dependable decision support system for cryptocurrency forecasting, which will include new performance indicators based on profits and returns. In future we promising to be there is a error free prediction.

References

- [1] Roondiwala, Murtaza, Harshal Patel, and Shraddha Varma. "Predicting stock prices using LSTM." International Journal of Science and Research (IJSR) 6.4 (2017): 1754-1756.
- [2] Fama, Eugene F. "Efficient capital markets a review of theory and empirical work." The Fama Portfolio (2021): 76-121.
- [3] Wang, Xiaohua, Paul Kang Hoh Phua, and Weidong Lin. "Stock market prediction using neural networks: Does trading volume help in short-term prediction?." Proceedings of the International Joint Conference on Neural Networks, 2003.. Vol. 4. IEEE, 2003.
- [4] Shen, Jingyi, and M. Omair Shafiq. "Short-term stock market price trend prediction using a comprehensive deep learning system." Journal of big Data 7.1 (2020): 1-33.

