Stock Prediction Using Technical and Sentimental Analysis

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Abstract: *Stock market movement prediction is a well-known problem of interest. These days, social media accurately reflects public attitude and opinion on current events. Researchers have focused their attention on Twitter in particular to examine popular sentiments. Stock market forecasting using public emotion conveyed on Twitter has been a fascinating area of study. The approach employed in sentimental analysis is to look at how strongly stock price changes, such as gains and decreases, are associated to people's Twitter opinions. Sentimental analysis aids in the examination of public opinion on Twitter; we took this approach by employing sentimental analysis. Another approach in the same topic of our project is using technical analysis. We use a multiple kernel learning regression framework to model the stock price movement as a function of these input features and solve it as a regression problem. The machine learning coupled with fundamental and/ or technical analysis also yields satisfactory results for stock market prediction. We also evaluated the model for taking buy-sell decision at the end of day which is also known as intraday trading.*

Keywords: Sentimental Analysis, Regression, Machine Learning, Prediction, etc.

REFERENCES

[1] Pahwa, K., & Agarwal, N. (2019). Stock Market Analysis using Supervised Machine Learning. 2019 International Conference on Machine Learning, Big Data, Cloud and Parallel Computing.

[2] Akba, F., Medeni, I. T., Guzel, M. S., & Askerzade, I. (2020). Assessment of Iterative Semi-Supervised Feature Selection Learning for Sentiment Analyses: Digital Currency Markets. 2020 IEEE 14th International Conference on Semantic Computing.

[3] Mohan, S., Mullapudi, S., Sammeta, S., Vijayvergia, P., & Anastasiu, D. C. (2019). Stock Price Prediction Using News Sentiment Analysis. 2019 IEEE Fifth International Conference on Big Data Computing Service and Applications (Big Data Service).

[4] Sarode, S., Tolani, H. G., Kak, P., & Lifna, C. S. (2019). Stock Price Prediction Using Machine Learning Techniques. 2019 International Conference on Intelligent Sustainable Systems.

[5] Ravikumar, S., & Saraf, P. (2020). Prediction of Stock Prices using Machine Learning (Regression, Classification) Algorithms. 2020 International Conference for Emerging Technology.

[6] Mankar, T., Hotchandani, T., Madhwani, M., Chidrawar, A., & Lifna, C. (2019). Stock Market Prediction based on Social Sentiments using Machine Learning. 2018 International Conference on Smart City and Emerging Technology.

[7] Kim, J., Seo, J., Lee, M., & Seok, J. (2019). Stock Price Prediction Through the Sentimental Analysis of News Articles. 2019 Eleventh International Conference on Ubiquitous and Future Network.

[8] Gupta, R., & Chen, M. (2020). Sentiment Analysis for Stock Price Prediction. 2020 IEEE Conference on Multimedia Information Processing and Retrieval.

[9] Moghaddam A H, Moghaddam M H, Esfandyari M. Stock market index prediction using artificial neural network: [J]. Journal of Economics Finance & Administrative Science, 2016.