Stock Market Prediction Using Machine Learning

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Abstract: *In the finance world stock trading is one of the most important activities. Stock market prediction is an act of trying to determine the future value of a stock other financial instrument traded on a financial exchange. This paper explains the prediction of a stock using Machine Learning. The technical and fundamental or the time series analysis is used by the most of the stockbrokers while making the stock predictions. The programming language is used to predict the stock market using machine learning is Python. In this paper we propose a Machine Learning (ML) approach that will be trained from the available stocks data and gain intelligence and then uses the acquired knowledge for an accurate prediction. In this context this study uses a machine learning technique called Support Vector Machine (SVM) to predict stock prices for the large and small capitalizations and in the three different markets, employing prices with both daily and up-to-the-minute frequencies*

Keywords: Stock Prediction, Machine Learning, Neural Networks, Deep Learning, Recurrent Neural Network

REFERENCES

[1] Ariyo, Adebiyi A., Adewumi O. Adewumi, and Charles K. Ayo. 2014. Stock Price Prediction Using the Arima Model. Paper presented at the 2014 UKSim-AMSS 16th International Conference on Computer Modelling and Simulation (UKSim), Cambridge, UK, March 26–28.

[2]Atkins, M. Niranjan, E. Gerding, Financial news predicts stock market volatility better than close price. J. Finance Data Sci. 4(2), 120–137 (2018).

[3]Hernández-Álvarez, Myriam, Edgar A. Torres Hernández, Sang GuunYoo., 2019. Stock Market Data Prediction Using ML Techniques.'' In International Conference on Information Technology & Systems, Springer, Cham, pp

[4]E. F. Fama, The Distribution of the Daily Differences of the Logarithms of Stock Prices, Unpublished Ph.D Dissertation, University of Chicago, 1964.

[5]J. Zupan, Introduction to Artificial Neural Network (ANN) Methods: What They Are and How to Use Them, Acta ChimicaSlov, 41-327, 1994.

[6]Obthong, M., Tantisantiwong, N., Jeamwatthanachai, W. and Wills, G., 2020. A survey on machine learning for stock price prediction: algorithms and techniques

[7] Song, Y. and Lee, J., 2019, December. Design of stock price prediction model with various configurations of input features. In Proceedings of the International Conference on Artificial Intelligence, Information Processing and Cloud Computing (pp. 1-5)

[8]Sharma, V., Khemnar, R., Kumari, R. and Mohan, B.R., 2019, September. Time series with sentiment analysis for stock price prediction. In 2019 2nd International Conference on Intelligent Communication and Computational Techniques (ICCT) (pp. 178-181).

[9]Tran, D. T., Iosifidis, A., Kanniainen, J., &Gabbouj, M. (2018). Temporal attention-augmented bilinear network for financial time-series data analysis. IEEE transactions on neural networks and learning systems, 30, 1407–1418.

[10]Sharma, A., Tiwari, P., Gupta, A. & Garg, P. (2021). Use of LSTM and ARIMAX Algorithms to Analyze Impact of Sentiment Analysis in Stock Market Prediction. Intelligent Data Communication Technologies and Internet of Things: Proceedings of ICICI 2020, 377–394.

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[11]Sezer, O. B., &Ozbayoglu, A. M. (2018). Algorithmic financial trading with deep convolutional neural networks: Time series to image conversion approach. Applied Soft Computing, 70, 525–538.

[12]Hu, Z., Zhao, Y. and Khushi, M., 2021. A survey of forex and stock price prediction using deep learning. Applied System Innovation, 4(1)

[13]Jain, S., Gupta, R. and Moghe, A.A., 2018, December. Stock price prediction on daily stock data using deep neural networks. In 2018 International Conference on Advanced Computation and Telecommunication (ICACAT)

[14]Pasupulety, U., Anees, A.A., Anmol, S. and Mohan, B.R., 2019, June. Predicting stock prices using ensemble learning and sentiment analysis. In 2019 IEEE Second International Conference on Artificial Intelligence and Knowledge Engineering (AIKE) (pp. 215-222)

[15]Parray, I.R., Khurana, S.S., Kumar, M. and Altalbe, A.A., 2020. Time-series data analysis of stock price movement using machine learning techniques. Soft Computing, 24(21)