

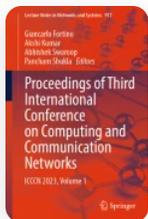
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# A LSTM Based Intelligent Framework for Financial Stock Prediction

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# Abstract

Stock analysis is a method used by traders and financial experts to evaluate the securities market and make informed decisions about buying and selling shares. It involves conducting extensive research to assess the performance and quality of a stock or an industry before investing. Stock analysis can take different forms, but traders usually use two main categories: technical and fundamental analysis. Technical analysis involves examining documented value outlines and researching previous market structures to predict future advances. On the other hand, fundamental analysis looks at data from the organization and its macroeconomic situation, such as financial history and revenue streams, to assess prospective gains from exchanges. The ultimate goal of stock analysis is to choose the best times to place trades and make the appropriate buying and selling decisions. Traders may specialize in one type of analysis or use a combination of both. Regardless of the approach, conducting extensive research is crucial to ensure wise investments that produce profit and avoid wasting hard-earned money.

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## References

1. A hybrid machine learning model for stock price prediction using sentiment analysis and technical indicators by V. Sharma et al. (2021). <https://doi.org/10.1109/ICAS51307.2021.9415016>
2. Stock price prediction using machine learning algorithms and technical analysis, by S. S. Gupta and S. Kumar (2021). <https://doi.org/10.1109/ICPS48432.2021.9483429>
3. Stock price prediction using machine learning algorithms with financial and textual data, by Y. Zhao et al. (2020). <https://doi.org/10.1016/j.procs.2020.09.129>
4. Machine learning-based stock price prediction using financial news articles, by S. Kwon and J. Lee (2020). <https://doi.org/10.1016/j.dcan.2019.07.005>

5. Stock price prediction using machine learning and sentiment analysis, by H. A. Alzahrani et al. (2020). [https://doi.org/10.1007/978-3-030-49190-1\\_31](https://doi.org/10.1007/978-3-030-49190-1_31)
6. Stock price prediction using machine learning algorithms and big data analytics, by T. Gao et al. (2019). <https://doi.org/10.1016/j.future.2019.06.027>
7. A machine learning-based stock price prediction model using financial news and technical indicators, by J. Liu et al. (2019). <https://doi.org/10.1109/ICMLA.2019.00139>
8. A stock price prediction model using machine learning algorithms and social media analysis, by Z. Ma et al. (2019). <https://doi.org/10.3390/app9224851>
9. A comparative study of machine learning techniques for stock price prediction, by S. Selvin et al. (2018). <https://doi.org/10.1109/ICRIS.2018.8598704>
10. Stock price prediction using machine learning techniques and time series analysis, by G. Jain and S. Kumar (2017). <https://doi.org/10.1109/ICCSP.2017.8286499>
11. Mishra, N., Mishra, S., Tripathy, H. K.: Rice yield estimation using deep learning. In: Innovations in Intelligent Computing and Communication: First International Conference, ICIICC 2022, Bhubaneswar, Odisha, India, December 16–17, 2022, Proceedings, pp. 379–388. Springer International Publishing, Cham (2023, January)
12. Chakraborty, S., Mishra, S., Tripathy, H.K.: COVID-19 outbreak estimation approach using hybrid time series modelling. In: Innovations in Intelligent Computing and Communication: First International Conference, ICIICC 2022, Bhubaneswar, Odisha,

[Google Scholar](#)

India, December 16–17, 2022, Proceedings, pp. 249–260. Springer International Publishing, Cham (2023, January)

[Google Scholar](#)

13. Verma, S., Mishra, S.: An exploration analysis of social media security. In: Predictive Data Security using AI: Insights and Issues of Blockchain, IoT, and DevOps, pp. 25–44. Springer Nature, Singapore (2022)

[Google Scholar](#)

14. Singh, P., Mishra, S.: A comprehensive study of security aspects in blockchain. In: Predictive Data Security using AI: Insights and Issues of Blockchain, IoT, and DevOps, pp. 1–24. Springer Nature, Singapore (2022)

[Google Scholar](#)

15. Swain, T., Mishra, S.: Evolution of machine learning algorithms for enhancement of self-driving vehicles security. In: 2022 International Conference on Advancements in Smart, Secure and Intelligent Computing (ASSIC), pp. 1–5. IEEE (2022, November)

[Google Scholar](#)

16. Sahoo, S., Mishra, S.: A Comparative analysis of PGGAN with other data augmentation technique for brain tumor classification. In: 2022 International Conference on Advancements in Smart, Secure and Intelligent Computing (ASSIC), pp. 1–7. IEEE (2022, November)

[Google Scholar](#)

17. Mohapatra, S.K., Mishra, S., Tripathy, H.K.: Energy consumption prediction in electrical appliances of commercial buildings using LSTM-GRU model. In: 2022 International

Conference on Advancements in Smart, Secure and Intelligent Computing (ASSIC), pp. 1–5. IEEE (2022, November)

[Google Scholar](#)

18. Tripathy, H.K., Mishra, S.: A Succinct Analytical Study of the Usability of Encryption Methods in Healthcare Data Security. In: Next Generation Healthcare Informatics, pp. 105–120. Springer Nature, Singapore (2022)

[Google Scholar](#)

19. Adrija, M., Yash, A., Sushruta, M.: 8 Pragmatic study of IoT in healthcare security with an explainable AI perspective. In: Explainable Artificial Intelligence for Biomedical Applications, pp.145–166. River Publishers (2023)

[Google Scholar](#)

20. Bhavya, M., Pranshu, S., Sushruta, M., Sibanjana, D.: 17 comparative analysis of breast cancer diagnosis driven by the smart IoT-based approach. In: Explainable Artificial Intelligence for Biomedical Applications, pp. 353–374. River Publishers (2023)

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