

Review of: "Machine Learning Methods in Algorithmic Trading: An Experimental Evaluation of Supervised Learning Techniques for Stock Price"

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Potential competing interests: No potential competing interests to declare.

The paper presents an extensive evaluation of various machine learning models in the domain of stock and currency price forecasting. The comparison of models such as NBeats, NHits, RNN, LSTM, and Transformers is well-conceived and offers a substantial contribution to the field of algorithmic trading. The research can fill a gap in understanding model performance in financial forecasting, particularly with limited data.

Although the novelty and improvement of the algorithms are generally limited, I can accept this paper as a promising paper for readers who are going to research in this area, if it considers some concerns:

Technical Depth and Novelty: The paper sets out to compare various machine learning models, which is a well-trodden area of research. To strengthen the originality, the authors need to highlight more clearly the novel contributions of their work beyond the application of existing models to financial data. The current state of the manuscript does not sufficiently differentiate its approach from prior studies.

Literature Review: The literature review is somewhat cursory and does not adequately situate the research within the existing body of work. A more thorough comparison with the latest studies in this rapidly evolving field would significantly improve the paper, especially the graph-based models like graph neural networks

(<https://www.sciencedirect.com/science/article/abs/pii/S0952197622004420>) or

(<https://www.sciencedirect.com/science/article/pii/S1877050922019524>).

Practical Application and Trading Bot: The application of a trading bot ("TradingHelper bot") using the developed models is an excellent practical extension of the research. It would be advantageous to include a performance evaluation of the bot based on historical or simulated trading to substantiate the models' real-world applicability. In addition, it needs to describe the features (input aspects) in detail.

Results Interpretation: While the results indicate that some models perform better than others, there's insufficient analysis of the reasons behind this performance. The paper would benefit from a more detailed statistical analysis and discussion on the economic significance of the results. The inclusion of confidence intervals or other statistical measures would provide a clearer understanding of the models' reliability.

Additional Considerations:

- The datasets used are not described in sufficient detail. It's unclear whether the data has been cleaned or processed, which can significantly impact model performance.
- The paper should discuss the ethical implications of algorithmic trading, which is a growing concern in the field.
- It would be beneficial to discuss the computational complexity of the models and their scalability.
- Consideration of the models' performance in different market conditions (e.g., bull vs. bear markets) would be insightful.
- The paper could benefit from a discussion on the interpretability of the models and their decisions, which is crucial for trust and adoption in financial applications.