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

Sandip Garai[1]

1 ICAR-Indian Institute of Agricultural Biotechnology

Potential competing interests: No potential competing interests to declare.

Reviews:

The authors assert that NBeats and NHits models exhibit superior performance in the domain of stock and currency price prediction, particularly when dealing with smaller datasets and narrower time windows. NBeats and NHits are characterized as quick learners that require less data, whereas Transformers demand more substantial data for effective tuning. Consequently, NBeats and NHits are recommended choices for scenarios that necessitate rapid decision-making.

To enhance the quality of the article, here are several suggestions:

1. The abstract should avoid using abbreviated terms. A list of abbreviations and their corresponding long forms should be provided at the outset. For example, "autoregressive integrated moving average (ARIMA)" and "Generalized Autoregressive Conditional Heteroskedasticity (GARCH)" should be presented consistently in this format.

2. Clarify the concept of "hierarchical hybrid models" mentioned in the text and provide a brief explanation or reference for further details.

3. Distinguish between "AI" and "ML" (Artificial Intelligence and Machine Learning) to highlight their differences and roles in the research context.

4. In the text, explicitly state and specify the differences between hybrid and ensemble methods in the context of the study.

5. Expand the literature review section by referencing additional sources for more comprehensive insights. Suggest using sources such as https://doi.org/10.47852/bonviewJDSIS3202870 and https://doi.org/10.1016/j.iswa.2023.200202 to enrich the review.

6. Ensure consistency in the use of verb tense throughout the article, preferably using the present perfect or past tense and passive voice when referring to data collection processes, such as "data have been collected from reputable financial databases."

7. Justify the choice of model specifications in the model implementation section (subsection 3.4). Explain the reasons for selecting each specific model and its relevance to the study.

8. Maintain consistency in the use of terminology. Replace "N-BITS Algorithm" with "N-BEATS (Neural Basis Expansion Analysis for Time Series)" and "N-HEATS Algorithm" with "N-HITS (Neural Hierarchical Time Series)." Ensure the

article adheres to a more formal and consistent writing style.

9. Consider providing graphical representations of Table 1 to enhance readability for readers.

10. Include data representation in the article. Present graphical representations illustrating data patterns and provide information on data frequency. Share the link to the dataset and code as supplementary materials to ensure the reproducibility of results. Mention the software used for the analysis.

11. Explain the formulas for prediction indicators (eg. RMSE) and provide a reference or link to the trading bot for readers interested in further details.

Conclusion:

The authors' research highlights the promising potential of NBeats and NHits models in the realm of stock and currency price prediction, particularly when dealing with limited datasets and shorter time windows. These models emerge as efficient and rapid learners, making them valuable assets in time-sensitive decision-making scenarios. However, significant revisions are needed to enhance the article's overall quality. The text requires improvements in terms of clarity, consistency, and rigor, such as addressing the use of abbreviations, offering detailed justifications for model specifications, and providing a more comprehensive literature review. Additionally, graphical representations of data and a more thorough explanation of prediction indicators and trading bot information would substantially enhance the article's value to readers and researchers.

The article may be accepted after incorporation of all the comments.

Major revision is required.