Review of: "Adoption of Machine Learning Methods for Crop Yield Prediction-based Smart Agriculture and Sustainable Growth of Crop Yield Production – Case Study in Jordan"

Roza Hamaaziz[1]

1 Computer Science, University of Sulaimani, Sulaymaniyah, Iraq

Potential competing interests: No potential competing interests to declare.

Comments to Authors:

Overall Impression:

- I appreciate the relevance and timeliness of your research on machine learning methods for crop yield prediction. Your study addresses critical issues in agricultural sustainability and food security, particularly in the context of Jordan.

Strengths:

- The comprehensive review of multiple machine learning algorithms demonstrates a well-rounded approach to crop yield prediction. Your choice of XGBoost, Random Forest, and Lasso regression showcases the potential for high accuracy in predictions.
- The integration of optimization techniques with machine learning is particularly noteworthy. This approach not only enhances model performance but also contributes to practical applications in agricultural planning.

Data Sources:

- Utilizing datasets from both the Department of Statistics Jordan and the climate change knowledge portal adds credibility to your findings. The emphasis on data quality and volume is crucial and well-articulated.

Results and Discussion:

- The results you presented, particularly the low mean squared errors of your models, are impressive. I encourage you to further discuss the implications of these results on agricultural practices and policy-making in Jordan.

Challenges and Future Work:

- It would be beneficial to elaborate on the challenges you encountered regarding data quality and volume. A discussion on how future research could address these issues would strengthen the manuscript.
- Additionally, consider mentioning specific innovative techniques or future directions for improving algorithm performance that you believe could be explored in subsequent studies.

Conclusion:

- Your conclusion effectively summarizes the importance of your work. Highlighting the role of machine learning in supporting decision-making processes for crop prediction can further emphasize the practical applications of your research.

Clarity and Structure:

- Overall, the manuscript is well-structured and clearly written. A few minor edits for clarity and conciseness would enhance readability, but the content is strong.

Final Thoughts:

- I recommend accepting your manuscript for publication, as it makes a valuable contribution to the field of smart agriculture and crop yield prediction. I look forward to seeing how your work can influence sustainable agricultural practices in Jordan and beyond.