Review of: "FLAML-Boosted XGBoost Model for Autism Diagnosis: A Comprehensive Performance Evaluation"

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Potential competing interests: No potential competing interests to declare.

The paper introduces the problem of unbalanced datasets and their effect on ML models. However, here are the main issues of this paper:

1- Balancing datasets is not a new problem to be processed as many studies took into account dealing with such problems as part of their work.

2- Introduction part is poor. It must be enhanced by adding some literature review in order to define what are differences in this paper compared to previous ones at the same field.

3- Why do author use specific ML model (XGBoost)? Did he try another models? what about ensemble model?

4- For dataset description, I prefer to make a description table instead of text.

5- The methodology section is very poor.

6- Figures quality is poor; besides, they have no titles.

7- As I see in the confusion matrix, number of samples in the dataset is too low. I prefer using a bigger dataset.

8- Study need more discussions, more ML models for comparison scenarios, and better structure in all sections.

9- Result are very poor.

10- Structure, language and scientific body of the paper need modifications and enhancement. I encourage authors to make a review study of the state-of-art works in the same field, get some benefit, and try to re-build their work since it's not acceptable in this situation.

Final decision is to reject. Authors should try to enhance their work based on recommendations and re-submit paper again.

Best regards.