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 authors touched the popular and important topic of integrating the AI enhanced diagnostic methods into the modern medicine. However, the authors present their research more as a machine learning experiment with one of the medical datasets. The authors use the FAML library with XGBoost gradient optimisation algorithm, however, did not describe the classification algorithm/method that was used by FAML library to create a model and classify patients. The authors do not provide the evaluation technique that was used to calculate the results - a single split, cross-validation or stratified cross-validation. None of standard efficiency measures was calculated - accuracy, sensitivity, specificity, false negative rate etc. The results were not compared to another ML methods to show the advances of the FAML library, and what is more important - none of standard clinical trial metrics were used to show that dataset was well balanced and comply with standard conditions for a medical trial.

Clinical data analysis and building the predictive models for disease or pathology diagnostics require well planned research in collaboration with medical institutions. If the developed technology is planned to be used for diagnostics, it must be properly validated, and ethics side makes it obligate to comply with golden standard medical trial rules and conditions.