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PEER-REVIEW REPORT

Name of journal: *World Journal of Gastroenterology*

Manuscript NO: 78509

Title: Hybrid XGBoost model with Hyperparameter Tuning for prediction of Liver disease with better accuracy

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06311365

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Turkey

Author's Country/Territory: Nigeria

Manuscript submission date: 2022-06-30

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-06-30 12:41

Reviewer performed review: 2022-07-04 21:59

Review time: 4 Days and 9 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [ ] Grade C: Good [Y] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [ ] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [Y] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [ ] Major revision [Y] Rejection
Re-review	[Y] Yes [ ] No

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Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

First, what are the original findings of this manuscript? What are the new hypotheses that this study proposed? What are the new phenomena that were found through experiments in this study? What are the hypotheses that were confirmed through experiments in this study? 1. Original findings claim that with XGBoost algorithm disease prediction is higher, however, technical detailed information is inadequate.

Second, what are the quality and importance of this manuscript? What are the new findings of this study? What are the new concepts that this study proposes? What are the new methods that this study proposed? Do the conclusions appropriately summarize the data that this study provided? What are the unique insights that this study presented? What are the key 2. The manuscript compares three sttaistical tools, CHAID, CART and XGBoost. These methods are just applied with minor settings but these settings are not presented in the manuscript although the title includes hyperparameter tuning. Third, what are the limitations of the study and its findings? What are the future directions of the topic described in this manuscript? What are the questions/issues that remain to be solved? What are the questions that this study prompts for the authors to do next? How might this publication impact basic science and/or clinical practice? 3. The manuscript proposed the XGBoost model but no detailes are presented. The question that "which features are important for XGBoost model?" remains unanswered. This publication has minor adding for practice because no detailed information is presented.

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Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05126185
Position: Editorial Board
Academic degree: PhD

Professional title: Associate Professor

Reviewer's Country/Territory: South Korea

Author's Country/Territory: Nigeria

Manuscript submission date: 2022-06-30

Reviewer chosen by: AI Technique

Reviewer accepted review: 2022-06-30 12:22

Reviewer performed review: 2022-07-11 00:08

Review time: 10 Days and 11 Hours

Scientific quality	[ ] Grade A: Excellent [Y] Grade B: Very good [ ] Grade C: Good [ ] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [Y] Minor revision [ ] Major revision [ ] Rejection
Re-review	[ ] Yes [Y] No

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Peer-reviewer statements	Peer-Review: [Y] Anonymous [ ] Onymous Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

I am really grateful for reviewing this manuscript. In my opinion, this manuscript can be published once some revision is done successfully. This study used an XGBoost model, one of the most advanced machine learning model at this point. I would like to point out that this is a great achievement. But I would like to suggest the authors to draw SHAP summary and dependence plots for identifying the direction of association between a particular feature and the dependent variable. Here, the SHAP value of a particular feature for a particular observation measures a difference between what the model (e.g., XGBoost) predicts for the probability of the dependent variable for the observation with and without the predictor. Indeed, the SHAP dependence plot reveals an interaction between two features regarding their effects on the probability prediction of the dependent variable.

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RE-REVIEW REPORT OF REVISED MANUSCRIPT

Name of journal: *World Journal of Gastroenterology*

Manuscript NO: 78509

Title: Hybrid XGBoost model with Hyperparameter Tuning for prediction of Liver disease with better accuracy

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 06311365
Position: Peer Reviewer
Academic degree: MD
Professional title: Doctor
Reviewer's Country/Territory: Turkey
Author's Country/Territory: Nigeria

Manuscript submission date: 2022-06-30

Reviewer chosen by: Jia-Ru Fan

Reviewer accepted review: 2022-07-28 20:15

Reviewer performed review: 2022-07-29 12:36

Review time: 16 Hours

Scientific quality	[ ] Grade A: Excellent [ ] Grade B: Very good [ ] Grade C: Good [Y] Grade D: Fair [ ] Grade E: Do not publish
Language quality	[ ] Grade A: Priority publishing [Y] Grade B: Minor language polishing [ ] Grade C: A great deal of language polishing [ ] Grade D: Rejection
Conclusion	[ ] Accept (High priority) [ ] Accept (General priority) [ ] Minor revision [Y] Major revision [ ] Rejection
Peer-reviewer	Peer-Review: [Y] Anonymous [ ] Onymous

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statements	Conflicts-of-Interest: [ ] Yes [Y] No

SPECIFIC COMMENTS TO AUTHORS

There are still some vocabulary problems inside he text and even in Tables. In handling the data, what are three ways to copping the data There are still tense inconsistencies Please simply explain GINI coefficient and its importance You mentioned precse and recall but you did not explain them. Please interpret Figure 8 Please interpret Figure 9 shortly Discussion and Conclusion parts are still too short