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OPEN PEER REVIEW

Comparison of Machine Learning Tools for the Prediction of ICU Admission in COVID-19 Hospitalized Patients

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About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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1 Original submission

0 comments

No public comments in this round.

2

Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

The editor in chief

Shiraz E-Medical journal

In response to the comments of the reviewers and editor of the manuscript entitled **Comparison of machine learning tools for the prediction of ICU admission in COVID-19 hospitalized patients**, we would like to inform you that we modified the manuscript. According to the editor and reviewers' comments, the necessary changes were made in the manuscript.

1- **P-value <0.2 is not significant. !! p-value > 0.2 while accuracy is over 99% !! please clarify.**

Authors' response: Dear reviewer, Thanks. According to your comments, the p-value threshold is changed to 0.05. Therefore, several variables in the feature selection were removed.

2- **In figure 2, why did you use genetics algorithm for feature selection? why you have used five methods as classifiers??**

Authors' response: Dear reviewer, these methods are the most common and widely used data mining techniques. Besides, there are many classification methods. However, in the present study, the included methods had optimal classification performance and there was no need to test other classifiers.

3- **Training and optimization and parameter tuning of algorithms like neural networks are all missing.**

Authors' response: Dear reviewer, based this comment, we added the ANN configuration and structure in the present work.

4- **Figure 3, needs significant statistical analysis like ANOVA.**

Authors' response: ANOVA results for five algorithms. The rates are displayed in figure 3.

5- **In figure 3, ROC has a sharp trend. clearly state why?**

Authors' response: Dear reviewer, Regarding ROC: 1- We used the values 0 and 1 in the graph display. So, this chart is not smooth. The curve created by ROC in this study plots a point for each of the values of the true positive rate and the false positive rate of our model at different threshold levels. This helps the researcher see the exchange between FPR and TPR for all threshold levels. So, when we transfer the predicted values to our ROC instead of the predicted probabilities, we will have only one point because these values are calculated using a certain threshold. And because the TPR and FPR points of our model are for a certain threshold level, they are displayed sharply. That is, the curvature of an ROC chart depends on the number of "steps" or the number of thresholds we use.

6- In table 3, you must check statistical dependency among all the selected factors with p-value <0.05. You have nominated 20 variables without checking their impacts and interactions.

Authors' response: Dear reviewer, the table was checked and the values were corrected.

7. **What are real contributions of this paper. please list your findings before conclusion.**

8- provide some practical implications for healthcare managers.

Authors' response: Dear reviewer, according to your last 2 comments we revise all the discussion and conclusion sections and added the required information.

2 Revision 1

1 comment · 16 Dec 2021

Editor-in-Chief

ACCEPT 16 Dec 2021

accept