Responses to Reviewers’ Comments Performance Analysis of Supervised Classification Models on Heart Disease Prediction

**Reviewer #1**: Authors have presented a predictive analysis to determine the possible risk factors associated with their heart disease status.

Paragraph Comment #1:

Introduction is vague in the current form. It should include the background of the research work with proper citations, motivation, objectives of the studies and the contribution. The major challenges should be listed in this section. Author should use proper citations to support this study.

Response #1:

The manuscript has been re-written, especially the introduction. Appropriate references are provided where necessary.

Paragraph Comment #2:

Latest literature should be added. Add papers from 2020, 2021 and 2022. In standard research papers the references should not be less than 45.

Response #2:

We have added latest literature from 2020 to the current year 2022.

Paragraph Comment #3:

Method section should include the block diagram of the approach. The working section should be discussed properly. How the experimentation performed. Numerical explanation is needed. Proper explanation is also needed.

Response #3:

We have added the block diagram of the approach (see Figure 5) and discussed how the experiment was performed.

Paragraph Comment #4:

Dataset description should be in detail with the parameters and variables.  
Response #4:

This has been fully explained in section 2.1.

Paragraph Comment #5:

Provide the comparison with different features.

Response #5:

This is not applicable here. This work aims to evaluate the performances of ten classifiers such as Logistic Regression, Random Forest, Decision Tree, Naive Bayes, k-Nearest Neighbor, Extreme Gradient Tree, Conditional Random Forests, Linear Discriminant Analysis, Artificial Neural Network and Support Vector Machine in predicting heart disease. By comparing different features with each model will lead to biasness according to the no free lunch theorem.

Paragraph Comment #6:

The improvement should be specified properly with the reasons, justification and comparative study. Authors can compare the results with different variation considering different algorithms.

Response #6:

Yes, we have done that before arriving with support vector machine (the best model). Please see section 3.2.

Paragraph Comment #7:

Add a separate discussion section. Discussion should include (Summarize your key findings, give your interpretations, Discuss the implications, Acknowledge the limitations, State your recommendations and comparative analysis). Discussion section should contain the result impact, comparative study analysis and the overall analysis of the result.

Response #7:

We have done this in section 4-6.

Paragraph Comment #8:

Add the study limitations.

Response #8:

We have added study limitation in section 6.

9. Discuss the impacts of attributes.  
  
This has been greatly discussed in section 3.1

**Reviewer #1**: The paper title: "Performance Analysis of Supervised Classification Models on Heart Disease Prediction" is written very nicely and I want to thanks authors for working in this area.

Paragraph Comment #1:

The abstract need improvement to some extent.

Response #1:

We have improved the abstract.

Paragraph Comment #2:

The headings of the tables need to be revised as the content so much.

Response #2:

The headings of the tables have been revised now. See Table 1 to 5.

Paragraph Comment #3:

In section 2.2.2 the equations mentioned are not numbered.

Response #3:

All the equations are adequately numbered in the revised manuscript.

Paragraph Comment #4:

Figure number 2 and 3 needs improvement as the content of the axis is not visible, so improve the quality of that.

Response #4:

This has been improved.

Paragraph Comment #5:

The data set used is very less so you can add more data set for better analysis.

Response #5:

We used two sources of heart disease databases (the Cleveland and the Statlog), and they are sufficient enough for better analysis. Other research works we have seen used only one source of data.

**Reviewer #3**:

Paragraph Comment #1:

Paper is nicely written still more work required is on literature review part Of the paper.

Response #1:

We have improved on the literature review part of this paper and cited more scholarly papers.

Paragraph Comment #2:

Results must be explained for every factor which has been mentioned in the shown diagrams.

Response #1:

This has been done in the exploratory data analysis as shown in section 3.1**.**