Review of: "Implementing Machine Learning to predict the 10-year risk of Cardiovascular Disease"

Manisha Shinde-Pawar[1]

1 DKTE Society's Textile and Engineering Institute

I would advise accepting the work with a few small adjustments based on the article's quality and subject. The work offers essential insights into the potential of ML models in healthcare and tackles a significant issue, the prediction of Cardiovascular Disease (CVD) risk using machine learning algorithms. The findings are well reported, and the authors offer insightful recommendations for the next lines of investigation.

Here are the justifications for my advice as well as some particular suggestions for revision:

- Relevance and Importance: The work tackles the prediction of CVD risk, a pertinent and significant healthcare issue. The use of machine learning to enhance risk assessment is crucial given the increased prevalence of CVD worldwide.
- Clarity and Presentation: Additionally, minor proofreading for grammar and language could improve readability. Clarity and Presentation: The manuscript is generally well-written and structured, with clear figures and tables. Adding figure captions for Figures 1 and 2 would enhance clarity.

More information on the hyper parameters that were tuned and their corresponding ranges during hyper parameter tuning will improve the study's repeatability.

- Comparison with Traditional Models: Although the study notes that ML-based models outperformed conventional models, it would be advantageous to add a brief discussion or comparison with the performance of conventional traditional CVD risk prediction models in order to contextualize and support the assertion.
- Generalizability: It would improve the work to address how the models would perform in alternative populations or datasets and to acknowledge any potential restrictions on the generalizability of the results, particularly in relation to the particular population or dataset employed.
- Ethics: It would be wise to add a brief explanation of any ethical issues pertaining to the use of ML for CVD risk prediction given the ethical implications of healthcare applications.

It would improve the quality and completeness of the work to address these minor issues in an updated version of the text. Overall, the work advances the fields of machine learning and healthcare, and its conclusions might be useful to both academics and healthcare professionals.