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

Jin-On Jung

Potential competing interests: No potential competing interests to declare.

This work by Dahia and Szabo from University of Adelaide, Australia, is labeled “Implementing Machine Learning to predict the 10-year risk of Cardiovascular Disease” and deals with various prediction models to estimate if patients develop cardiovascular disease during a time span of 10 years.

After reviewing the manuscript, I can state that a thorough literature review was performed and that the methodological part of the work is profound. Thus, the authors are transparent with presenting their methods and explaining the statistical tests and outcome measures. I also doubt that the manuscript text was somehow artificially generated. I have the feeling that the text reads well and is written in a sophisticated way. What I would like to point out as aspects of potential improvement is first of all the abstract: It could have a better structure and cut right to the chase. Furthermore, the database that was analyzed in this work is from an external center and not from Adelaide. The manuscript itself may be an original submission, however, the fact that external data was analyzed should be considered in the evaluation of this work. The authors may show that the AUC of the machine learning algorithms, especially AdaBoost and RandomForest, outperformed traditional evaluation methods. However, the practical consequences or implications for clinical work are too few that I could attest any kind of novelty for this work.

I understand why the other reviewers evaluated the work poorer and it may be even true that the lack of originality and new insights should lead to a lower rating. However, with my evaluation I want to encourage the authors to pursue further ML work and I want to emphasize that this is a submission of integrity on this research field.