Reviewer’s report

Title: Prediction models in the design of Neural Network based ECG classifiers: A Neural Network and Genetic Programming Approach

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Reviewer: Dr Peter Macfarlane

Level of interest: not specified

Advice on publication: Other (see below)

General Comments

The referee thanks the authors for making changes outlined and notes that the other referee also had some concerns. Notwithstanding, this referee still feels that the paper is lacking in absolute clarity. I believe it still suffers from the classic situation where the authors understand perfectly what is happening but fail to clearly put across their work in a way that a first time reader can understand. For example, in the abstract there is no mention of the fact that the prediction models are trained with respect to results that have already been obtained from training a network to undertake a bi-group classification between anterior myocardial infarction and normal patients. The abstract also does not mention 44 different classifiers which were then used as part of training and testing. As a result, the reader is left with some confusion about training neural networks for ECG classification and training a neural network for predicting when to stop training the network for ECG classification! When this fundamental point is understood, the paper then begins to make more sense.

Aside from this, the authors have certainly made improvements to the original but their description of genetic programming is still rather confusing. Finally, although the authors explain their results, as far as this referee can determine no-one else can make any use of them in any way because no co-efficients etc. are published.

One of the variables input to the network is feature selection but again nowhere is this defined.

In conclusion, this referee still feels that further clarifications could be added to the manuscript.

Specific Comments

Pg Para Line
Abstract I still think the first time reader looking only at the abstract will have difficulty in understanding what is meant by "differences between desired and predicted results".

There is reference to figure 1. I think the legend to figure 1 is inadequate. For example it should say something like "The graphs depict the performance of a neural network with learning and test data ....

"phenomena" should be "phenomenon".

The authors have kindly written a paragraph broadly outlining genetic programming but it still does not clarify the situation at least for this referee. For example, on lines 2/3 they state that "by randomly varying the initial solutions, new solutions are created". This simply does not make sense to the uninitiated!

"effects" should be "affects". "hence" should begin a new sentence. Only a few comments are made on syntax as it is assumed that the Journal will have a sub-editor who will tidy up the paper.

"in" should be "is".

Competing interests:

None declared.