Comments for PSO – RBF

# Reviewer 1

## 1. Comment

Avoid using acronyms in abstract

## Response

Corrected.

## 2. Comment

Abstract is oddly short. Please expand it by describing the problem in few more details.

## Response

## 3. Comment

Make sure that each acronym has been defined at the first occurrence (RBF for example).

## Response

Corrected.

## 4. Comment

Elaborate in more details why PSO and GA were selected (among other, more recent metaheuristics available). These two algorithms are one of the oldest approaches.

## Response

## 5. Comment

Expand literature survey by mentioning other state-of-the-art metaheuristics that were used to tune machine learning models in general, such as:

* https://www.hindawi.com/journals/sp/2021/5540024/
* https://www.mdpi.com/2079-9292/11/22/3798
* https://link.springer.com/article/10.1007/s00521-017-2874-2
* https://ieeexplore.ieee.org/abstract/document/8678770

## Response

## 6. Comment

Figure 2 layout is broken, please address it.

## Response

Corrected.

## 7. Comment

Figures 3 and 4, caption is partly hidden by images, please address it.

## Response

Corrected.

## 8. Comment

Discussion should be more elaborate.

## Response

## 9. Comment

Other metrics should be presented as well not only the accuracy. Include precision, recall, f-score as well. These additional metrics can be significant for imbalanced datasets (such as credit card frauds dataset).

## Response

## 10. Comment

Average accuracy isn't reliable indicator when it is calculated as average of 20+ dataset, some of them imbalanced, some not, some with large number of entries, etc. Better, indicate on how many datasets out of total number of datasets the proposed approach obtained the best accuracy, for example 15 out of 24.

## Response

## 11. Comment

Indicate future work in the conclusion.

## Response

# Reviewer 2

## 1. Comment

Page 3: Algorithms 1: Should “Do” be replaced with “do”?

## Response

Corrected.

## 2. Comment

Page 4 Line 95: The reviewer think that “do” has not been deepened.

## Response

Corrected.

## 3. Comment

Page 5: In figure 2, there should be spacing between images and captions.

## Response

Corrected.

## 4. Comment

Page 5 Line 105: It is necessary for the author to check the sequencing.

## Response

It is a format effect of LaTeX.

## 5. Comment

Page 6 Line 156-160: After the URL of the dataset, please mark the specific date of access.

## Response

## 6. Comment

Page 9 – Page 10: Relevant pictures of the experimental results should be placed in the previous section.

## Response

Fixed.

## 7. Comment

Page 11: I hope the author can adjust the formatting to improve the problem of image obscuring the title.

## Response

(prepei na ginei se format tis MDPI)

## 8. Comment

The appendix section is missing funding, statements, etc. And the title and layout of the references also need further improvement.

## Response

(prepei na ginei se format tis MDPI)

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# Reviewer 3

## 1. Comment

The article proposes a technique for training RBF NN. Although RBF is relatively known, its abbreviation should be properly introduced in the article.

## Response

Corrected.

## 2. Comment

The paper does not have a proper introduction and it does not present a section with similar attempts to identify parameters of RBF networks or at least for NN in general or even deep learning, if there are not enough recent entries in the literature, although I believe there are quite a few:

-        https://ieeexplore.ieee.org/document/7095057

-        https://www.sciencedirect.com/science/article/pii/S0307904X11006251

-        https://www.mdpi.com/1424-8220/22/11/4204

-        https://www.mdpi.com/2227-7390/9/21/2705

-        https://www.inderscienceonline.com/doi/abs/10.1504/IJAIP.2022.126695

-        https://link.springer.com/chapter/10.1007/978-3-030-39033-4\_3

## Response

## 3. Comment

The authors should elaborate on why their technique should be preferred to other similar attempts.

## Response

## 4. Comment

It is not clear why PSO is combined with a GA (why not only GAs or only PSOs).

## Response

## 5. Comment

A diagram with an overview of the methodology should be presented to give a more intuitive presentation of the proposed technique.

## Response

## 6. Comment

Eq. (7) needs either correction or more explanations. How can an interval be equal with a sum?

## Response

This paragraph changed to “The function E( y ) (equation [eq:eqrbf](#eq_eqrbf)) is modified to an interval one [ E min ( y ) , E max ( y ) ] calculated with the procedure given in Algorithm [alg:Fitness-calculation-for](#alg_Fitness_calculation_for).”

## 7. Comment

The settings from Table 1 should be explained. Actually, all the captions from the tables and figures should contain more explanations.

## Response

## 8. Comment

A (at least one) baseline model should be included in the experiments to indicate the benefits of employing the proposed method.

## Response

(Mporoun na mpoun apotelesmata me treximo me Neural Network kai training me Genetic algorithm)

## 9. Comment

Figures 3 and 4 does not bring anything new as compared to the tables. Numerical information about the running times should be presented, as well. The captions from the figures cannot be read well

## Response

(edo prepei gia kathe ena dataset na trexoun mia fora oles oi methodoi kai na katagrafoun ta sum times)