The manuscript entitled "**Improved colony predation algorithm optimized convolutional neural networks for ECG signal classification**" has been investigated in detail. The topic addressed in the manuscript is potentially interesting and the manuscript contains some practical meanings, however, there are some issues which should be addressed by the authors:

1. Abstract contains too many non-expanded abbreviations. It should be written in a way that requires the least possible use of acronyms. Please rewrite it in a clearer way.
2. There must be major qualitative and quantitative results in the abstract. For the time being abstract lacks quantitative results.
3. Line 65: Therefore, ~~these~~ motivates us to propose an improved CPA, and use it to optimize the parameters of the CNN.
4. Explain IEEE CEC 2017 benchmark functions in the introduction.
5. I suggest merging sections 1 and 2. Authors started with literature review already in the beginning of section 1 and then again there is a special section considered for this!
6. Literature review should not only repeat the title of published papers!!! It must be meaningful and pretty relevant to the topic of current research. Thus, I suggest digging more into cited papers in literature review and extracting the main message with a brief on the results both quantitative and qualitative. Saying the results were good, better, excellent is very general. Yet, we are writing a specialized manuscript for experts!
7. Line 105: To reduce this costly waste, many researchers use optimization algorithms to implement automatic 106 searches for optimal parameters of deep learning network structures.
8. Line 178: When the prey begins to chase prey there are two strategies.
9. Caption in Figure 4 should be self-explanatory. Explain the main message of figure in caption. Increase a lot the font size of titles, axes etc. in this figure to be more visible.
10. Keywords should be written in alphabetical order.
11. The linguistic quality needs improvement. It is essential to make sure that the manuscript reads smoothly- this definitely helps the

Commented [M1]: This!

Commented [M2]: This is vague! Please re-write it.

Commented [M3]: Or predator?!

reader fully appreciate your research findings. There are grammar and writing style errors that should be corrected by the authors.

12. Equations should be used with correct citations. They seem as if they are proposed and used firstly in this paper.
13. Explain the difference between datasheets: MIT-BIH dataset and ST-T dataset. How do they differ from each other leading to different values?
14. Some more recommendations and conclusions should be discussed about the paper considering the experimental results. The Conclusion section is weak.
15. Some paragraphs are too long to read. They should be divided into two or more for comprehensibility and readability.
16. How the constraints (intervals of the attributes - lower and upper limits violation, constraint functions for the focused problem) are coped with the proposed optimization method is not clear. Is this constraint handling same for all compared methods?
17. How do authors consider the parameters of optimized methods?
18. What are the other possible methodologies that can be used to achieve your objective in relation in this work?
19. Discuss your position on the generalizability of your results.
20. Clarifying the study's limitations allows the readers to better understand under which conditions the results should be interpreted. A clear description of limitations of a study also shows that the researcher has a holistic understanding of his/her study. However, the authors fail to demonstrate this in their paper. The authors should clarify the pros and cons of the methods. What are the limitation(s) methodology(ies) adopted in this work? Please indicate practical advantages, and discuss research limitations. The discussion of the results needs to include the strengths and weaknesses of the proposed algorithm. These limitations can be organized around simple distinctions of the choices you made in your study regarding who, what, where, when, why, and how. To have an unbiased view in the paper, there should be some discussions on the limitations of the proposed method.
21. Discussion is absent. It would be better first that authors highlight their findings in the form of statements along with the conclusive data of statistical importance; mention how their findings are unique and novel; how these findings are in consensus with the existing

values/ reports or how different are they from the already reported findings. Discuss your findings in terms of what was previous known and not know about the focus of your research. Did your findings cohere and/or contrast with previous research on similar groups, locations, people, etc.? Findings should respond to the purpose of the study and should be presented systematically.

22. I recommend the authors to review other recently developed works.
23. All figures should follow the same font and notation; the authors need to make sure all images are following the format.
24. Discuss the associated errors to your data such as MAE, RMSE and specially MRE.

This study may be consider for publication if it is addressed in the specified problems.