

This paper is related to reviewing the manuscript titled "**Longitudinal analysis of step counts in Parkinson's Disease patients: insights from a Web-Based application and generalized additive model**"

The study uses the generalized additive model (GAM) to analyze step count data from Parkinson's disease, a chronic neurological disorder, to understand disease progression and treatment effectiveness, and develops an interactive visualization tool for this analysis.

Firstly, Although the proposed study is successful in terms of good performance analysis and evaluation results, organization, presentation, content and results are poor of the paper. So, major revision given in the following items need to be performed.

- 1) Improve the conclusion section, enhance the manuscript to convey the purpose, objectives, method and major findings, especially results in the items of convenience, interest, comfort, enhancing student's self-confidence and subjective initiative.
- 2) Use abbreviations after the first use in the text, in the abstract and throughout the paper.
- 3) The literature review is quite insufficient in the introduction section. Complete the introduction and literature sections of the manuscript by providing similar studies from the years 2023-2024 and/or new and current studies that will attract the attention of the readers.
- 4) Neither the mathematical nor algorithmic expressions of these methods are given in the paper text. The authors urgently need to find a solution to this issue, and the mathematical equations of the methods must be given in the paper.
- 5) What are the contributions of the authors in this study in terms of Web-Based application and generalized additive model? It is essential to clarify this issue.
- 6) In addition, the proposed model should be compared with new methods, from the results except some figures.
- 7) Performance analyses and results are very few and insufficient. Increasing the results and including more detailed analyses in the paper would increase the value and scope of this paper.
- 8) The interpretation of the results and the discussion section are insufficient. These sections should definitely be increased and improved.
- 9) The conclusion section really needs to be improved
- 10) The resolution of the figures giving the analysis results should be increased.
- 11) Clean the paper of English spelling and punctuation errors

My decision is major revision. I would like to inform you that if all the requested items are not completed in this revision, my decision will be to reject the application in the second round. Otherwise, I do not see any harm in publishing the manuscript once the above revisions are made.

Best regards.