

# Review of: "An Improved Hybrid Transfer Learning-Based Deep Learning Model for Alzheimer's Disease Detection Using CT and MRI Scans"

Sree Lakshmi<sup>1</sup>

<sup>1</sup> University of Kerala

Potential competing interests: No potential competing interests to declare.

## An Improved Hybrid Transfer Learning-Based Deep Learning Model for Alzheimer's Disease Detection Using CT and MRI Scans

The author has proposed a hybrid transfer learning-based deep learning model for Alzheimer's Disease detection using CT and MRI scans. The topic is interesting, and the authors try to convince the readers of the findings and generate figures. While this framework is stated as improved by the authors, there isn't much concrete content to back it up, which is elaborated below.

1. The paper does not clearly and accurately describe the problem in the introduction section. Please provide a clear quantitative analysis in the abstract. Provide the stability analysis.
2. The study lacks a theoretical framework, which is important for the reader to grasp the crust of the research.
3. It is better to reduce the count of keywords to four or five (for example, use mild cognitive impairment only instead of late and early MCI).
4. Image dataset identification, image conversion, augmentation and normalization techniques, etc, are not a contribution of this research. These all are well-established terms. The reviewer strongly suggests rewriting the contributions (if any contribution is available).
5. The proposed work is too short. It is not suitable for a research article. Elaborate on the proposed work and give a detailed explanation of figures and tables.
6. There are too many abbreviations in the paper. You must create a table at the end of the manuscript and include the abbreviations.
7. The results for the analysis of the findings are weak in answering the future of research in the particular domain and its application due to the lack of a summary and outlook from the studies themselves, which promotes the level of the paper. The reviewer strongly recommends the authors collect, read, and analyze some related papers from relevant journals and present the results better.
8. You need to insert a discussion session where you give your opinion about the advantages of using your method.
9. There are several mismatches throughout the manuscript. The reviewer suggests the authors kindly review the manuscript thoroughly to rectify them.

11. Compare your results with some previous studies.
  12. The authors are suggested to highlight how the work differs from existing literature since it is not very evident.
  13. The limitations of the research work should be mentioned in the Conclusion.
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1. Nowadays, most studies use DL as a "black box" to solve problems, and they pay much attention to statistics rather than the physical mechanism, which is fundamental for bio-researchers. Please introduce the relationship between the DL-predicted results and the physical mechanism of the disease identification. Here, some additional details might be useful for the general readership and should be provided by the authors according to their expertise. Thus, given the importance of this topic, I suggest authors study similar articles and cite them within the main text. The authors will clearly understand how to organize the contents by going through the above-mentioned article.
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