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

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Potential competing interests: No potential competing interests to declare.

Originality and Contribution to the Field: The article presents an innovative approach to Alzheimer's Disease detection using a hybrid transfer learning model. It is essential to highlight how this study differs from existing research, particularly in terms of methodology and results. The contribution to the field of medical imaging and neuro-degenerative disease detection should be clearly articulated.

Methodological Rigor: The use of ResNet50 , VGG16, and DenseNet121 in conjunction with CNN is interesting. However, the article should provide more details on the rationale behind choosing these specific models and their configurations. A deeper explanation of the transfer learning process and any modifications made to the pre-trained models would enhance the paper's technical depth.

Data Handling and Analysis: The use of the ADNI dataset is appropriate, but the paper should discuss the dataset's limitations, such as potential biases, and how these were addressed. The pre processing steps, data partitioning (training, validation, and testing), and any data augmentation techniques should be described in detail.

Results and Validation: The reported accuracy of 96.6% is impressive; however, it is crucial to critically analyze these results. The paper should include a comparison with baseline models and discuss why the proposed model outperforms them. It is also important to validate the model's performance on an independent dataset to demonstrate its generalizability.

Clinical Implications: While the technical aspects are well-covered, the paper could benefit from a discussion on the clinical implications of the findings. How can this model be integrated into current diagnostic workflows? What are the potential impacts on patient outcomes?