# 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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The paper is about detecting different stages of AD using three different CNN networks: ResNet50, VGG16, and DenseNet121. The data are taken from the ADNI database and the author compare these three networks in terms of performance. The paper is well written, the methodology is clear and the results are sufficiently presented. I have some comments:

Firstly, the dataset is not sufficiently presented. As the data are taken from ADNI, it will be much better to present some additional information concerning the patients: number of patients, gender, age, etc. Moreover, it is not clear if the authors are using the whole number of images of a particular brain scan or some of them. Which method is used for data normalization? Does a normalization is necessary and how data augmentation affects this process? Some clarification would be more that useful. In summary, the authors should give all available information that exists in ADNI database about the data used in this work.

Second, the authors should mention their scientific contribution if any. As far as I have understood, the contribution is the comparison of existing CNN networks. In that case they should mention existing papers that do the same work if any, and compare the results with them.

Overall it is a well written paper but with a questionable scientific contribution to the domain as there is no comparison with existing works.

Minor changes:

-Remove the following phrase from the abstract:

"The work classifies Alzheimer's patients into various stages using transfer learning with ResNet50, VGG16, and DenseNet121 along with CNN on a large dataset."

because it is a repetition. Also the phrase "along with CNN on a large dataset" is confusing to my opinion.

-In the first paragraph of the introduction, the abbreviations EMCI and LMCI should be mentioned in parenthesis after the terms that are introduced just before.

-During the explanation of stages I could not understand the ANN format. Maybe some explanation would be useful.

-In section 6 the Accuracy, Precision, Recall and F1-score expressions should be better written as classic equations rather than in text form in italic.

-The images 5 and 7 provide a poor description of the networks. Maybe they can be removed or give more details to the networks: size of image, size of filters, etc.

-The overall quality of the images in the paper is poor. There are important deformations, they are apparently in low resolution and there is a poor choice of colors in my opinion. I advise the authors to use adequate programs like draw.io or similar, and make the images from the beginning.

-There are figures for ResNet (fig. 7) and DenseNet (fig.5). Why not for VGG?