

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

Tiziana D'Alessandro¹

¹ University of Cassino

Potential competing interests: No potential competing interests to declare.

This work uses transfer learning with three CNN architectures to classify AD patients into various stages. The paper doesn't introduce a novel procedure, but is interesting and the English is good.

Many remarks and typos have been found in the text. Please revise your paper carefully.

Remarks:

- pay attention to punctuation
- pay attention to the correct way of writing the names of CNNs
- In the abstract, the following sentence is redundant as it equals the previous one: "The work classifies Alzheimer's patients into various stages using transfer learning with ResNet50, VGG16, and DenseNet121 along with CNN on a large dataset".
- In the abstract, the sentence "The performance of VGG16, DenseNet121, and ResNet50 outperformed other models significantly", to which "other models" are you referring?
- Define acronyms the first time they are cited (like EMCI)
- In intro, "Alzheimer's pathology changes in patients could not be assessed early" This is not completely true
- this sentence is incorrect "S 3 discusses transfer learning (Section 3.1) VGG16, (Section 3.2) Resnet50, (Section 3.3) DenseNet121."
- This sentence is incorrect "Section 3 discusses transfer learning (Section 3.1) VGG16, (Section 3.2) Resnet50, (Section 3.3) DenseNet121."
- For Figure 1, scale the image instead of compressing it horizontally
- This sentence is not correct: "The ImageNet database contains a pre-trained version of this network that has been trained on more than a million images "
- ImageNet is a DB of images, and it can't contain a pre-trained CNN. You can pre-train a VGG16 model on ImageNet.
- Cite the ADNI in the correct way and not in this way (adni.loni.usc.edu)

- This information "raining (400 from each class)" is different from what is shown in Tab.2
- In Sec. 5.1 the architecture is described again, it is redundant.
- Fig 4 doesn't show the architecture; it is at the place of fig.5 and viceversa
- Fig 4 and Fig 6 have lines with different thickness
- Fig 8 bad resolution
- You talk of ROC curves, but there aren't
- The discussion of the results is poor

Typos:

- VGG 16