

Replies to Reviewer 2's Report

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Title: Anomaly Analysis of Alzheimer's Disease in FDG-PET Images Using an Unsupervised Adversarial Deep Learning Model

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The authors thank the reviewers' quick, honest, and constructive criticism.

Point 1: Mathematical definition: It does not make any sense that the training set is comprised of N normal images where $N = 0$.

Essentially this would mean that you have zero data for training.

Response 1: The sentence has been modified to give accurate information about the dataset in line no. 194.

Point 2: Fig. 1 still refers to a Chapter 3 that is not part of the article. I already pointed that out in my previous comments but it was not addressed.

Response 2: The word "chapter" has been replaced with "Section". More information has been added to the Fig. 1. It was the authors' intention to show the comparison between the conventional GAN structure and the proposed GAN structure for image construction.

Point 3: Some added sentences must be rewritten E.g. line 149-152 ("comes from Schlegl et al. in that in the work, the authors..")

Response 3 Sentences have been fixed.

Point 4: Some sentences are just incomplete and miss the full stop at the end. E.g. line 303: "This unique feature As it is shown.. "

Response 4: Appropriate full stops have been added.

Point 5: Abbreviations: there are some abbreviations in the manuscript that are not included in the list.

Response 5: Abbreviation list has been expanded.

Addendum 1: The title of the article has been changed to Anomaly Analysis of Alzheimer's Disease in **FDG-PET** Images Using an Unsupervised Adversarial Deep Learning Model. It has been clarified throughout the paper that the images used are **FDG-PET** Images.

Addendum 2: Both sub-figures in the Fig. 1 have been modified to give more clear information.