Reviewer’s report

Title: Predicting progression of mild cognitive impairment to dementia using neuropsychological data: a supervised learning approach using time windows

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Reviewer: Qianjin Feng

Reviewer's report:

This paper proposed a supervised learning approach for dementia prediction of MCI subjects based on neuropsychological data. The main novelty of the paper was the usage of time windows method and neuropsychological data to predict a specific future time when MCI subjects convert to dementia. The manuscript is technically sound and the conclusions reached are supported by the evidence presented. However, I have a few concerns with the paper:

1. Same abbreviations are defined several times in the paper, such as NPTs in Pages 3 and 5. Please check your manuscript carefully.

2. Recent studies showed that MRI can contribute significant progress to understand the neural changes related to AD and other diseases. Moreover, MRI data provide some brain structure information; this information can be used to identify the anatomical differences between populations of AD patients and normal controls and assist in the diagnosis and evaluation of MCI progression (as mentioned in Huang et al. 2017, Longitudinal measurement and hierarchical classification framework for the prediction of Alzheimer's disease). It would be better if MRI data is incorporated into the prediction model to evaluate the performance. Moreover, information about genetic and clinical scores could also be enriching.

3. It would be nice to add an error bar figure to show the validation results.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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