

Review of: "Deep Learning Modeling for Prediction of Cognitive Task Related Features from Resting-state fMRI Data"

Ting Li

Potential competing interests: No potential competing interests to declare.

The paper give an overview of the whole topic in the using of re-FC in neuroimaging, sepecially in the using of fMRI to study the brain connection. However, something should be improved to achieve a high level.

1. Eq. 1 on 2.2, the word "nilearn" is not proper, because this is a kind of machine learning based on Python neuroimaging, it's recommended to use "Nilearn" instead.
2. Eq. 1 on 2.4.2, some grammatical errors should be fixed, for example, it's "We used the least..." not "We used least..."
3. Eq. 2 on Introduction, more details should be provided on this part, there is only some information on literature review and problems on current studies but lack of brief statement of methods and objectives.
4. Eq. 1 on Materials andMethods, some flowcharts are recommended to give an overview of all steps.
5. Eq. 1 on Introduction, to give a clearly statement of the connection between re-FC and neuroimaging studies, some references is recommended to be provided:
 1. B. Sun, Z. Liu, Z. Wu, C. Mu, T. Li*, Graph Convolution Neural Network based End-to-end Channel Selection and Classification of Motor Imagery Brain-computer Interfaces, IEEE Transactions on Industrial Informatics, 2023
 2. B. Sun, Z. Wu, Y. Zhang, H. Zhang, X. Hao, Z. Wei, T. Li*, Golden Subject Is Everyone: A Subject Transfer Neural Network for Motor Imagery-based Brain Computer Interfaces, Neural Networks, 151:111-120, 2022
6. Eq. 2 on Introductim mor details should be added in the Introduction to show the limitations of current study, so it's recommended to provided some studies:
 1. C. Gao, X. Zhao, T. Li*, Effects of indoor VOCs from paint on human brain activities during working memory tasks: An electroencephalogram study, Indoor Air, 32(7):e13062, 2022.
7. Eq. 1 on 2.4.1, more details of the Neural network models should be provided so some references are helpful:
 1. H. Zhang#, X. Zhao#, Z. Wu, B. Sun, T. Li*, Motor Imagery Recognition with Automatic EEG Channel Selection and Deep Learning, J. Neural Eng. , 2021, 18(1):016004.
 2. H. Zhang, Z. Wu, X. Zhao, B. Sun, T. Li*, Adaptive Spatial Temporal Graph Convolutional Network for Motor Imagery Classification, IEEE Signal Proc. Lett. , 28: 219-223, 2021
8. Eq. 2 on 2.4.1, the relevant formulas of k-NN algorithm are suggested, how does it normalize the eigenvalues of the

sample?

9. Eq. 8 on 2.4.1, some specific definitions of LSTM and related cell states need to be explained, for example, what is the function of the oblivion door in this study?