

# Explanation

## Dataset

There are three data folders: 'training\_data' folder, 'test\_data' folder and 'angle testing' folder. The 'training\_data' folder is composed of the simulation dataset, LightDigit dataset. The 'test\_data' folder is composed of real data collected from 24 participants. The 'angle testing' folder is composed of the data at different angles that is only used for test experiments with different light angles (subsection D of section VI). In the subsections BCE of section 6, we mainly use the 'training\_data' folder and the 'test\_data' folder. As for how to use the 'training\_data' folder and the 'test\_data' folder to form different scenarios, it is introduced in the subsection 'test scenarios' of section VI of the paper.

## Source code

The file 'Subsection\_B\_of\_Section\_VI\_ConvRNNAttention.ipynb' is programmed based on Keras platform and the folder 'Subsection\_B\_of\_Section\_VI\_ViLiT' is based on PyTorch platform. They mainly implements different data composition and loading methods in different scenarios which corresponds to the subsection B of section VI in the paper. As for the rest, I am still working on it.