"EEG + AI competition" explanation file

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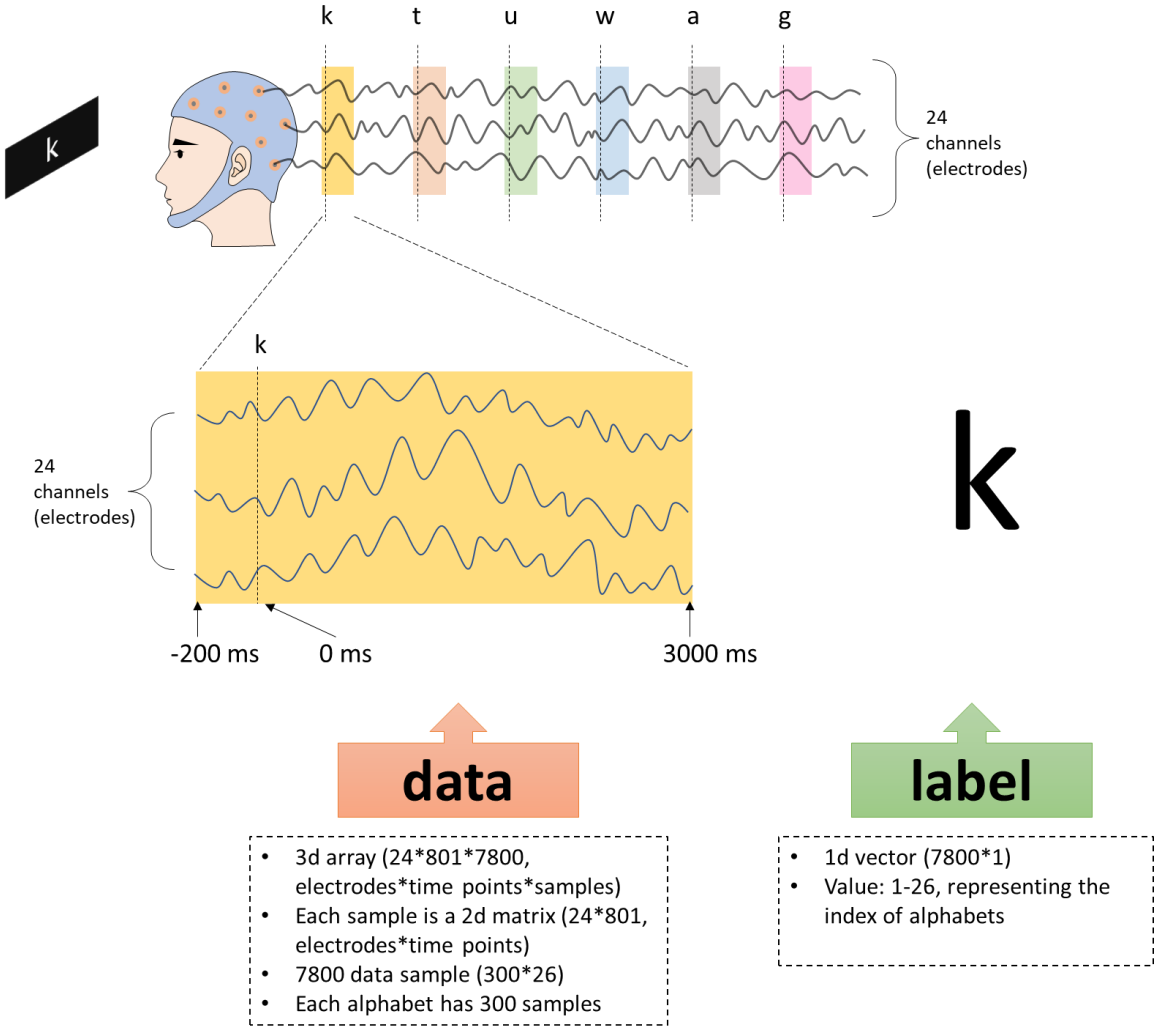
Data

The data is from EEG (brain signals) recorded during a single participant's performing of handwriting imagery (imagining the processing of handwriting but not actually doing it). The content of imagined handwriting is the 26 alphabets.

The handwriting imagery task goes like this: the participant sat in front of a computer monitor and wore an EEG cap recording the EEG signals from the head. Every three seconds, an alphabet (e.g., "k") was shown on the screen for 200 ms and the participant was required to imagine the process of handwriting this alphabet.

The data is organized as a typical machine learning setting, i.e., data samples + labels. There are 7800 data samples (300 samples for each alphabet). Each data sample is a 2d matrix with size of 24*801 where 24 is the number of electrodes (channels) on the EEG cap and 801 is the number of time points (equally distributed between -200 ms to 3000 ms) after the presentation time of each alphabet. Thus, the entire data samples were put into a 3d array with size of 24*801*7800. The label information was put into a single vector with matched length (7800). There are 26 different values (1 to 26) in the label, corresponding to each alphabet.



Tips: try different frequency bands, time frequency, different electrodes, etc

To be further developed