عنوان مقاله:

BCIExplorer: A User-Friendly Graphical User Interface for BCI Assessments

محل انتشار:

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خلاصه مقاله:

We have developed an open-source graphical user interface (GUI), BCIexplorer, running under multi-platform Matlab environment for assessments of BCI competition data. The data used in this paper is related to BCI competitions recorded while focusing on motor imagery of four classes (left hand, right hand, foot and tongue). BCIexplorer is organized in two sections. First section allows users to choose the desired data from data sets including multi-trial, multi-subject and multi-channel. Second section allows users to customize visualization. Using this interface, it is possible to plot EEG waveforms of multiple channels in several separate graphs, simultaneously. This interface can show potential changes of all channels as an online topographical 2-D scalp map. These potential changes can be saved as an animation file that can be showed at desired rate.In general, the aim of the proposed GUI is to provide a powerful toolkit to accelerate and facilitate the visualization of BCI data with just a few mouse clicks, without the knowledge of any programming language. This interface is expected to be a valuable tool not only for unprofessional users but also for the advanced users, students and faculty of various academic courses who can benefit from it.

کلمات کلیدی:

Electroencephalogram, Brain-computer interface, Graphical user interface

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