

عنوان مقاله:

Recognition EEG signal patterns for emotion identify using feature learning methods

محل انتشار:

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خلاصه مقاله:

Emotions play an important role in the daily human life; hence, the need to recognize feelings for improving human and computer communication has increased. Recognition EEG signal, considering the internal emotion of people compared to other methods, is very important. One of the modern methods of emotion detection is the use of electroencephalography signals (EEG). Using signal processing techniques and characteristic learning methods, it is examined the patterns obtained by registered signals. A new method for improving emotion recognition is present in this paper. This paper explores the impact of emotion recognition accuracy of EEG signals on different frequency bands and different number of channels, and extract the pattern recognition of signals. The proposed method uses of brain alpha waves and extraction and characterization of characteristics based on received signals, and attempts to improve emotion recognition. Signals are classified using DT decision tree classification after recording, processing and extraction of the property by the two methods of PCA and PSD with. The proposed algorithm has been recorded on ۱۰ people watching ۲ videos, ۴ happy images and ۴ sad images. The results obtained from the ۶ electrodes provide an acceptable improvement percentage. Given a decrease in the number of electrodes and a reduction in processes, an ۸۸.۷۳% improvement is shown in the recognition of emotions of happiness and ۸۶.۳۱% of improvement in detecting emotions of sadness.

کلمات کلیدی:

EEG signal, feature learning, emotion recognition, decision tree, patern recognition

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