عنوان مقاله:

EEG signal classification using Bayes and Naïve Bayes Classifiers and extracted features of Continuous Wavelet Transform

محل انتشار:

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خلاصه مقاله:

in this paper, we recommend a method of the signal processing for analyzing EEG. To this end,, the signal using the continuous wavelet transform (CWT) is decomposed into dominant scales and a set of statistical features is extracted from these scales, which shows the distribution of wavelet coefficients. Then, the feature selection methods: sequential forward search (SFS) and sequential backward search (SBS) is used to reduce the dimension of the data. Finally, these features give as input to the Bayes and Naïve Bayes classifier with three kinds of discrete outputs: normal, inter-ictal, and ictal. The results of this study show that the highest performance is related to the Bayes classifier, so that the classification accuracy of this classifier using all the features is %99 and using the selected features by SFS and SBS is %100.

کلمات کلیدی:

component; Electroencephalogram (EEG); Epileptic seizure; Continuous wavelet transform (CWT); Sequential forward search (SFS); sequential backward search (SBS); Bayes classifier; Naïve Bayes classifier