Classification of frontal alpha asymmetry using k-Nearest Neighbor

Abstract

Frontal alpha asymmetry is used as the EEG feature in this study. Total number of 43 students participated in EEG data collections of relax and non-relax conditions. The spectral power of the alpha band for both left and right brain are extracted using data segmentations and then the Asymmetry Score (AS) is computed. Subtractive clustering is used to predetermine the number of cluster center that are presented in the data. While Fuzzy C-Means (FCM), is used to discriminate the EEG data into an appropriate cluster after the total number of cluster had been determined. The classification rate obtained from the k-Nearest Neighbor (k-NN) classifier is 84.62% which gives the highest classification rate.