

Brain signatures: A modality for biometric authentication

Abstract

In this paper we investigate the use of brain signatures as a possible biometric authentication technique. Research on brain EEG signals has shown that individuals exhibit unique brain patterns for similar tasks. In this paper we use brain EEG signals recorded during the performance of three mental tasks to identify six individuals. PSD features using Welch algorithm is extracted from the EEG Beta waves. A feed forward neural classifier is used to identify the six individuals. The performance of the neural network is appreciable with an average accuracy of 94.4 to 97.5%. Results validate the usage of brain signatures as a possible modality for biometric verification.