

Feedforward Neural Network with Backpropagation for Epilepsy Seizure Detection

Authors : Natalia Espinosa, Arthur Amorim, Rudolf Huebner

Abstract : Epilepsy is a chronic neural disease and around 50 million people in the world suffer from this disease, however, in many cases, the individual acquires resistance to the medication, which is known as drug-resistant epilepsy, where a detection system is necessary. This paper showed the development of an automatic system for seizure detection based on artificial neural networks (ANN), which are common techniques of machine learning. Discrete Wavelet Transform (DWT) is used for decomposing electroencephalogram (EEG) signal into main brain waves, with these frequency bands is extracted features for training a feedforward neural network with backpropagation, finally made a pattern classification, seizure or non-seizure. Obtaining 95% accuracy in epileptic EEG and 100% in normal EEG.

Keywords : Artificial Neural Network (ANN), Discrete Wavelet Transform (DWT), Epilepsy Detection , Seizure.

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