Abstract

Electroencephalography (EEG) signal is a kind of signal which is retrieved from brain wave through electrode sensor. EEG signal is possible to be classified for medics purpose, especially for classifying disease. In this case, eye-state can be classified based on EEG signal. Artificial Neural Network classifier is applied to classify the case, with some optimization on the weights of artificial neuron. For weight optimization, this case applied Evolution Strategies. Some various of parameter (96 parameters) of classifier model will be examine to the dataset, both training set and testing set. This case determined F1-Measure for performance measure. Based on test result can be concluded that Artificial Neural Network weight optimized by Evolution Strategies could classify eye-state based on EEG signal. The best F1-Measure performance in this case is 77.4% and the best accuration is 73.2%.

Keywords : Electroencephalography, EEG, Classification, Eye-State, Artificial Neural Network, Evolution Strategies