

ABSTRACT

Electromyography (EMG) is a method for recording electrical activity produced by skeletal muscle. There are three general stages for detecting muscle activity using EMG signals, there are denoising, feature extraction and classification. The EMG signal classification algorithm influences the accuracy of detection of muscle activity, so choosing the right algorithm is very important. However, studies of the right algorithm for the detection of muscle activity in the literature are still rarely found. This final project analyzes several classification methods on EMG signals to get the best classification algorithm. The method used in this final project research is a qualitative comparative analysis of algorithm performance based on several test metrics such as accuracy, sensitivity and specificity. Two classification algorithms on EMG signals in the literature have been selected for analysis, namely Artificial Neural Network (ANN) and Support Vector Machine (SVM). The test data used came from healthy subjects consisting of 5 men with an age range of 20 to 25. The instrument used to retrieve data was developed based on Internet of Things (IoT) technology. The experimental results show that SVM is better than ANN for the two test metrics, greater sensitivity 17.48%, and greater specificity 3.39%. Whereas ANN is better in accuracy of 2.36%.

Key Word : *Electromyography, Artificial Neural Network, Support Vector Machine*