ABSTRACT

When listening to music or sounds with certain frequencies, human will feel different kinds of emotions. These emotions come from the stimulation made by the music or sound itself, which causes fluctuation on brain activity and produces brain signal with certain characteristics. Using *Electroenchephalography*(EEG) as the instrument to record brain signal, we can find what kind of effect created by the stimulus for emotions which was produced by brain activities. From this thesis, writer builds a system which can classified sound effects upon brain activities from the EEG signal. Using Discrete Wavelet Transform (DWT) the captured signal will be divided based on the respective frequency and then certain features extracted from the signal. The features will be then used to train Artificial Neural Network. Training Artificial Neural Network will be perfomed using backpropagation method. Based on the performed experiment, the highest mean of the ANN accuracy classification by using the data testing is 34.03%, in which we can conclude that ANN is not suitable for this case. The cause of this is because it's hard to decide what features work best for this EEG classification and there is no one suitable features for this case, especially when the ammount of the subject is big

Keywords : *EEG, emotion, Discrete wavelet Transform, Artificial Neural Network*, *backpropagation*