ABSTRACT

Humans have the ability to remember with a very large capacity, but not everyone can maximize the ability to remember, so for some people remembering is a difficult thing. There are many ways that can improve the memory and cognitive power of one's brain, one of which is the brain gym, brain gym is a brain sport or brain exercise intended to train the brain to increase brain cognitive power, the effect caused by brain gym measured by EEG (Elektroensephologram). EEG signal (Electroensephalogram) is a biotic signal that comes from electrical activity on the cortex or the surface of the scalp, which is caused by physiological activities of the brain. The EEG signal (Electroensephalogram) will be connected to the computer and stored in the database.

The research in this final project aims to be able to create a system that can prove the effects of Brain Gym on cognitive power and recall memory in the student brain by analyzing Alpha and Beta waves. The method used in this study is Discrete Wavelet Transform (DWT) with type DWT haar, sub-projects 2 through technology 10 for feature extraction and Support Vector Machine (SVM) using Linear, RBF / Gaussian and Polynomial kernels for classification methods.

The final result of this study is a system that is able to classify EEG Brain Gym output signal test classes and not do Brain Gym with the highest accuracy of 100% system training and 75% system testing on AF7 channels, 81% on AF8 channels, 78% on TP9 channels , 71% in the TP10 canal using the DWT Haar type and the SVM Polynomial Kernel.

Keywords:Recall MemoryBrain Gym, EEG, DWT, SVM