

ABSTRACT

The heart is a vital organ in the human body. In addition, the heart can affect the state of other organs, so the heart is required to keep it healthy and running properly so that the entire system of the human body running well. Through the heart's electrical activity can be detected various diseases, one of which is a sleep disorder Sleep Apnea. The detection of this disease needs to be done with appropriate actions. Detection of Sleep Apnea will be more easily and precisely through the electrocardiogram signal.

This study has the aim to facilitate the detection of signals of patients who have the disease Sleep Apnea with the feature extraction using the Continuous Wavelet Transform (CWT). The study compared two methods of classification that, Adaptive Neuro-Fuzzy Inference System (ANFIS) and Support Vector Machine (SVM).

System with ANFIS method produces a good accuration, which is 87,5%, sensitivity 100% and specifity 80% by taking the number maximum of epoch is 20. System with SVM methods produces better accuration which is 91,6%, sensitivity 100%, and specifity 85,7% by taking the Gaussian Radial Basis Function for the type of kernel function.

Keywords : *Sleep Apnea, CWT, ANFIS, SVM*