ABSTRACT

Heart auscultation is a technique to examine heart sound. To use this technique a person must have a very good skill. Phonocardiogram record and show heart signal to the osciloscope wich later the signal will be examined by an expert. These proses is very complex and need a lot of time. That is why it is needed a software that could help to analize and interprets the heart sound.

Based on the problems above, a software that could help the doctors is made in this final project. This software is made by using Artificial Neural Network (ANN) Adaptive Resonance Theory 2 (ART-2) to separate each sound to its class. A preprocessing method that is used in this final project is Root Mean Square (RMS).

The result from this final project shows that feature extraction using Root Mean Square method gives a very good result because it can shows the feature resemblance in one class. From the trial of 169 heart sounds wich is divided into 15 class, the ART-2 have the precentage of error 4.73% by using the parameters: *rho*=0.999, *alpha*=0.1, c=0.1, d=0.1, and iteration for 1 time. In the trial using that parameters the network succesfully activated 98 neuron (class).

Keyword : root mean square (rms), artificial neural network (ann), adaptive resonance theory 2 (art-2)