ABSTRACT

Coronary heart disease is the most deadly heart disease, so for that reason it's needed early diagnosis of this disease for medication efficacy. The one way of early diagnosis of Coronary Heart Disease done by a cardiologist is through the record of electrocardiography (ECG). Coronary heart disease detection can be automated by creating an ECG pattern recognition software. This requirement needed a quite high accuracy to obtain accurate diagnose result. Research for coronary heart disease detection with ECG pattern recognition have been done previously used artificial neural network of Backpropagation and equation of fasa but the result was not satisfying.

In this final project, the comparison for classification between Backpropagation and Adaptive Resonance Theory (ART) will be done with spreader data image of ECG for each ECG coronary heart to improve accuracy.

The result show that Backpropagation Method (*Resilient Propagation*) give a better performance in accuracy. The accuracy of ECG pattern recognition for image with 164 x 380 pixel reach 100% for training data set and 61.84% for classification. The accuracy of ECG pattern recognition for image with 164 x 124 pixel reach 100% for training data set and 84.21% for classification . ART 1 method have an advantage in performance of fast training.

Keywords : Electrocardiography (ECG), Artificial Neural Network, Backpropagation, RPROP, Adaptive Resonance Theory (ART) 1, Coronary Heart Disease