ABSTRACT

Cancer is a deadly disease in the world, then cancer is the main cause of mortality and mordibility problem in the world. Therefore, a system is need for analysis and identification patient from cancer using microarray data from the patient's Deoxyribonucleic Acid (DNA). But microarray data has many atributtes, so that making challenges of data processing. It is usually reffered to as dimensionality.

Therefore, this final project will built a system that can to predict whether a patient is disease or not. The algorithm used is Genetic Algorithm as feature selection to select the optimal attributes based on the highest fitness value. The fitness value using classification method of Momentum Backpropagation Neural Network.

The results of the test system produce data using feature selection with Genetic Algorithm has a higher accuracy than without using Genetic Algorithm. Backpropagation Momentum can accelerate the convergence of the training process used in the classification. The best accuracy of colon tumor is 98.33% and leukimia is 100%.

Keywords: Dimensionality, Genetic Algorithm, Momentum Backpropagation Neural Network