

Abstract

Cancer is the leading cause in death. In each year of cancer is expected to continue to increase due to the unhealthiness of life-style patterns. In recent decades microarray plays an important role in the diagnosis of cancer. Microarray is a technology that can store thousands of genes taken in some human cells as well. Thus the microarray has a very large data dimensions therefore, to improve the accuracy of cancer diagnosis is then carried out by means of reducing dimensions by using Principal Component Analysis (PCA) and Modified Back Propagation (MBP). MBP is a modification of Standard Backpropagation (BP) which apply the method Artificial Neural Network (ANN) algorithm Fletcher Reeves Conjugate Gradient to increase the training process. The test results were obtained from the Principal Component Analysis (PCA) and have modified Backpropagation performance span of about 2-3 seconds to train. The result minimum time is 2:21 seconds to training the Central Nervous using line search Hybrid Bisection Cubic technique. When viewed from accuracy, the test results classification scheme PCA + MBP get an average accuracy of 82.15% for the technique of line search of the Golden Section.

Keyword : *Cancer, Microarray, Principal Component Analysis (PCA), Modified Backpropagation (MBP), Conjugate Gradient Fletcher Reeves, Artificial Neural Network.*