ABSTRACT

Cancer is the main cause in death. In the each year of cancer will continue to increase due to the unhealthiness of life-style patterns. In recent decades microarray usefull 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 compared with traditional techniques it is done 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) to the Conjugate Gradient algorithm Powell-Beale to speed up the training process. In this final project has succeeded in proving that the modifed backpropagation (MBP) and data reduction using Principal Component Analisys (PCA) show results quickly bees in the process of training. Results - average of the test using a modified backpropagation and PCA is the performance of each with techniques linesearch Charalambous Goldensection by 72.38% and amounted to 79.33%. This method is also good in terms of training time, given the average time - average required for linesearch Charalambous 2:30 seconds while Goldensection require 2:50 seconds.

Keyword : *cancer, microarray, principal component analysis (PCA), modified back propagation (MBP), conjugate gradient Powell-Beale.*