Abstract

Conjugate Gradient is one of optimation method that minimaze a function, where the search directions are constructed by its conjugation and orthogonal values. Because the orthogonal direction, Conjugate Gradient can be convergence to the solution. Conjugate Gradient not only can be used to solve linier function, but also non linier problems, such as Artificial Neural Network training.

In this final project, Conjugate Gradient Polak Ribiere algorithm used in Artificial Neural Network training as flexi sales prediction system. Data Past sales data used in this form of time series prediction and collected from april 2005 - december 2009. Time series data collected was divided into two: the training data and testing data. Training data used in the training process to produce a good network architecture. Test data and results of the training process of network architecture used for the testing process to produce a test result with good accuracy.

From the results of tests conducted on flexi sales prediction system has proved that this system can produce output with the test results of more than 90%.

***Keywords**: Conjugate Gradient Powell-Beale Restarts, prediction, flexi sales.*