Abstract

Crude oil is one of the most important comodity in the world trade. Crude Oil price fluctuation could influence the economic policy of a nation. To manage the risk of crude oil price increase or decrease, a forecasting system is needed. one of crude oil price forecasting method is using historical data (time series).Tthis method works by finding patterns of Crude oil price change based on the existing data.

In this final project, Elman Recurrent Neural Network (ERNN) is used as pattern finder. However, it is quite difficult to find optimal parameter for the ERNN. Therefore Grid-based Genetic Algorithm is used to optimize the parameters of ERNN. Grid-based methods in Genetic Algorithm used to solve the problem of premature convergence.

Data of Crude Oil prices from May 15, 1987 until May 14, 2010 is used in the development of the system. From the testing process, the system has average accuracy of 96,3674 % for the testing data.

Keyword*s: Genetic Algorithm, Elman Recurrent Neural Netwok, Crude Oil Prices, time series prediction.*