

Abstract

Gold is one kind of precious metal with high value. Many people invest their money in gold, because gold investment have resistance to the rate of inflation. In addition, gold exchange rate also tend to raise and hard to decline. Gold exchange rate's data is a kind of time series data. To predict the exchange rate of gold sales, the gold exchange rate historical data will be studied until produced certain patterns.

In this final task, developed a sistem to estimate the gold exchange rate based on historical data of gold exchange rate by using Recurrent Neural Network (RNN). More optimal RNN is constructed then result accuracy is higher. By using Evolutionary Programming can be obtained RNN optimal structure and weight.

The data that used is gold exchange historical data from January 1968 to March 2009. From that data, RNN estimates next month selling rates based on input of selling rate a few months earlier. From the testing process, obtained the best average accuracy of 96,5% for testing data.

Keyword : *Recurrent Neural Network, Evolutionary Programming, gold exchange rate, time series*