ABSTRACT

ONE-ORDER MULTI-FACTOR FUZZY TIME SERIES FORECASTING USING SHORT CROSS ASSOCIATION FUZZY LOGICAL RELATIONSHIP METHOD

By

Fitri Cahyani

24010118120046

Investment is a commitment to a number of funds made with the aim of obtaining profits in the future. Investing by buying a number of shares is quite risky because of fluctuating stock movements and causing stock price uncertainty for the future period. Therefore, a forecasting method is needed to predict future stock price movements. In this Final Project, the one-order multi-factor fuzzy time series forecasting is used which is a modified form of the fuzzy time series forecasting where the data is forecasted based on the influences factors, then the short cross-association fuzzy logical relationships method is used in the formation of fuzzy logical relationships (FLR). The use of the short cross association fuzzy logical relationship method in the formation of a fuzzy logical relationship (FLR) shows that the forecast value is influenced by the influences factor. The method is applied to forecast the stock price of Apple Inc. with data on the opening price of shares of Apple Inc. as the main factor data and the highest price data for Apple Inc. as data influences factor (second factor). Forecasting one-order multi-factor fuzzy time series using the short cross-association fuzzy logical relationship method produce good results. The forecast results show very good criteria, namely with an AFER value of 0.44891%.

Keywords: Forecasting, Fuzzy Time Series Forecasting, Multi-Factor Fuzzy Time Series Forecasting, Short Cross Association Fuzzy Logical Relationships Method.