ABSTRACT

Stock is a type of securities used as a sign of a person's capital or a business entity within a company. Before investing, it is important for investors to know how much risk and return of the stock. Volatility is a statistical method for measuring stock price fluctuations in a given period. One of the best time-series models in predicting stock price volatility is the Generalized Autoregressive Conditional Heteroscedasticity (GARCH). The optimization of methods is done to improve volatility predictions. The method used to optimize the GARCH model is the Artificial Neural Networks (ANN) model. In this Final Project determine the accuracy of the model used RMSE and MAE methods. Based on ANN-GARCH model analysis result better than GARCH model (1,1) in model accuracy. The result of RMSE and MSE with GARCH model is RMSE = 2.4867e-06 and MAE = 7.9885e-08, while with ANN-GARCH model get best result RMSE = 3.5016e-07 and MAE = 1.1249e-08.

Keywords *: Stock, Volatility, Generalized Autoregressive Conditional Heteroscedasticity, Artificial Neural Networks,* ANN-GARCH