ABSTRACT

Support vector machines (SVM) first appeared in 1992, introduced by Boser, Guyon and Vapnick in COLT-92. SVM is a classification and regression prediction tool that use machine learning theory to improve prediction accuracy and avoiding over-fit data.

There are other methods that can be used for forecasting, such as artificial neural network. Artificial neural networks (ANN) is a computing technology based on biological neural models, these models help simulate the behavior and working models of nerve for a wide range of inputs.

This final project using SVM and ANN methods for forecasting the movement of Jakarta Stock Exchange Composite Index (JCI). Both of these methods are compared through the values of accuracy, computing time and complexity of the algorithm. The results of the calculation 10 indicators [12] are used as input to the system.

The results are: the prediction performance of ANN model is 68,26% and total computation time 9.068 seconds. The prediction performance of SVM model is 56,57% and total computation time 27.666 seconds. ANN method asymptotic time is $O(n^2)$ and SVM method asymptotic time is $O(n^3)$. This experiment shows that artificial neural network method is better than support vector machines for forecasting the movement of Jakarta Stock Exchange Composite Index (JCI), moreover ANN has shorter complexity time, it indicates that ANN algorithm more efficient than SVM.

Keywords : support vector machines, artificial neural network, 10 indicators, Jakarta Stock Exchange Composite Index (JCI), time complexity.