Abstract

Crude oil is an important commodity and became one of the most influential factor on the economy and world trade. Fluctuations in oil prices not only affect a country's government budget, but also has a strong effect on the stock market and macroeconomic variables and policies affecting the economy of a country. Many studies with various methods that have been done to build this prediction system. One of them is [6] which using SVM to build crude oil prediction system. In the research, the best accuracy obtained is 81.27653%, where accuracy is average training accuracy of 92.7316% and 69.8211% accuracy testing.

LS-SVM with SVM is basically the same but it may work better than SVM. At this final task will try to build a crude oil price predictions as in previous studies, but this system will be implemented using the LS-SVM.

Time series data used is the same data with previous research that was taken www.eia.gov in January 1986 to December 2009. And will use some input features that are expected to strengthen the predictions made. From observations made, the system generates 90.72% accuracy where accuracy is average accuracy of 99.84% training data and testing data accuracy 81.6%. with scenario testing using a combination of 3 input features, RBF kernel, gamma parameter is 100 and the sigma parameter is 0.0001.

Keywords: *Crude oil, time series predictions, input fiture, least squares support vector machines.*