

## 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](http://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 future, least squares support vector machines.*