

ABSTRACT

Cryptocurrency has been a happening phenomenon either in Indonesia or the rest of the world. Eventhough in some countries it is not even fully legal yet, cryptocurrency has been assumed as a promising investment object in the past few years. There were many of study that proofing that cryptocurrency has starting to get well known in every class.

This study is focused at the comparison of the volatility of cryptocurrency and conventional currency and also a forecasting model. The method that has been used is a support vector regression, or SVM model for regression to be exactly. This study is trying to test the capability of the model which will be used to forecast the digital currency (bitcoin, ethereum, and ripple) and the conventional currency (US Dollar) on the October 2017-September 2018 period of time.

The model used to forecast each of those currency on those period of time. Purposive sampling is used with some characteristic, then processed with R Studio. This study has the intention to test the capability from Support Vector Regression in the forecasting process of digital and conventional currency on October 2017-September 2018.

The outcome of the study is the forecasting data consist of bitcoin, ethereum, ripple, and US Dollar. There are three types of model in this study that has been compared, which is Linear Regression, SVM, and hyperparameter Optimization SVM. For testing the accuracy of the forecast, using RMSE, MAE, and MAPE.

This study proves that Support Vector Regression can produce an accurate forecasting, if Hyperparameter Optimalization has been done. This study also proves that the SVM model is better choice than the linear regression.

Keyword: Support Vector Regression, Support Vector Machine, Cryptocurrency, Linear Regression, and Forecasting.