ABSTRACT

The SARCoV-2 virus, also known as COVID-19, has been in Indonesia since early March 2020. The appearance of this virus was first noticed when several people were admitted to the hospital with a pneumonia diagnosis. According to the covid19.go.id website, more than 2 million instances have been reported in Indonesia since March 2020. According to Yulinnas (2021) *on the CNN page, East Java has 145 referral hospitals for COVID-19 with a BOR (Bed Occupancy Rate) reaching 70 percent. The bed occupancy rate (BOR) is a measure of how many beds are in use. The optimal BOR limit is 60 percent, according to the World Health Organization. Hospitals with high BOR values may be unable to accommodate patients with COVID-19 symptoms. This study intends to forecast the increase in COVID-19 patients in East Java, with the forecasting results intended to assist the East Java regional administration in optimizing the health services required for COVID-19 patients. This study uses Support Vector Regression by using the linear kernel function for modeling and using GridSearchCV to optimize the parameters of the linear kernel function. Then, using SVR-Linear with optimal parameters, forecasting for the following date. The result of this study is a 30-day forecast starting from February 1, 2021 to March 2, 2021. The application of SVR-linear results in an accuracy value of 89.6% MSE and 13.9 percent MAPE. The MAPE value indicates that the model has good forecasting ability.*

Keywords— COVID-19, Support Vector Regression, Forecasting, Mean Absolute Percentage Error, Mean Square Error.