ABSTRACT

Rail transportation can be divided into passenger transportation and cargo transportation. Therefore, the planning and operational process related to passenger capacity is a more interesting field to study more deeply than the prediction problem of the addition of railway. Approximately 90% of the railway lines are entirely Dutch colonial legacy, and the rest are new lines, such as branches to the airport.

In this Final Project, a web-based system will be built to predict the total of Argo Parahyangan Rail Passengers using the Support Vector Regression (SVR) algorithm. Support Vector Regression (SVR) is a development of the Support Vector Machine method for regression cases. This method is able to overcome overfitting, in selecting SVR parameters using the Grid Search algorithm. The data used in this Final Project uses data on the total of Argo Parahyangan train passengers in the 2019 period and the types of train classes are divided into 2, namely Economy and Executive classes. The average SVR test results using RBF kernel produce MAE (Mean Abosolute Error) performance values of 0.1276, MSE (Mean Square Error) of 0.1796 and MAPE (Mean Absolute Percentage Error) of 0.00376.

Keywords*: Grid Search Algorithm, Prediction, Railway Train, Support Vector Regression.*