

ABSTRACT

Prediction of electricity consumption is needed to manage electricity use. Prediction of electricity consumption is also very much needed in the development of intelligent electricity networks. In this final report, we apply the Support Vector Machine (SVM) to predict the electrical load (W) on the electricity load of Telkom University Building P. Determination of Kernel, C, Gamma, Degree, and Epsilon parameters by comparing search results using GridSearchCV and Score SVR. Based on the results obtained by searching GridSearchCV and Score SVR, the best parameters for 1 hour prediction were Kernel: Linear; C: 4; Epsilon: 0.2, got MAPE value: 12.26 and MSE: 0.0757. The best parameters for 1 day prediction are Kernel: Linear; C: 0.5; Epsilon: 0.3 gets MAPE value: 15.308 and MSE value: 0.056. The best parameters for 1 week prediction are Kernel: polynomial; C: 1; Gamma: scale; Epsilon: 0.4 and degree: 3, getting MAPE scores: 14.00 and MSE scores: 0.041. The obtained model is saved in .sav format which will be used by the backend to predict the next data. The human-machine interface used is a website, the framework used is javascript based, namely NextJs.

Keywords: *Machine Learning, Electricity Usage Prediction, Support Vector Machine, Support Vector Regression, Frontend, Backend*