ABSTRACT

AIR QUALITY INDEX FORECASTING OF DKI JAKARTA USING SUPPORT VECTOR REGRESSION METHOD

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DKI Jakarta *occupies the fifth position in the capital city of the country with the highest concentration of pollution in the world and occupies the first position in Southeast Asia in* 2019. *In order to help* DKI Jakarta *to anticipate bad things related to air quality in the future, this research on forecasting the air quality of DKI Jakarta was carried out. The data used is the Air Pollution Index* (ISPU) *value data totaling 1095 lines at each station. There are 5 observation stations, namely* DKI 1 Bundaran HI *station,* DKI 2 Kelapa Gading *station,* DKI 3 Jagakarsa *station,* DKI 4 Lubang Buaya *Museum station and* DKI 5 Perumahan Kebon Jeruk *station. Before the data can be used to create machine learning models, the data is cleaned first by removing lost data and outlier data. Outliers data were found using the z-score method. Before making the model, the data is divided by 2, training data as much as* 80% *and test data as much as* 20%. *The machine learning model was created using the* Python *programming language and the* Python Scikit-learn *library. The method used in making the model is Support Vector Regression* (SVR). *The model that has been created is then tested using the Mean Absolute Percentage Error (*MAPE*) method and gets an average error value of 15.34%.*

Keywords: Air Quality, Forecasting, ISPU*, Mean Absolute Percentage Error, Machine Learning, Regression, Support Vector Regression,*