ABSTRACT

Dengue Hemorrhagic Fever (DHF) is one of the endemic diseases throughout the tropics and parts of the subtropics. This disease is transmitted by the Aedes aegypti mosquito. This disease becomes scary because of the rapid spread of infection that occurs in an area. In 2016, there were hundreds of thousands of dengue fever sufferers throughout Indonesia and thousands of them died due to dengue transmission caused by the aedes aegypti mosquito. Climate change can affect the pattern of infectious diseases which will increase the risk of transmission.

This study was conducted to find the effect of climate with the level of dengue cases in the Bandung Regency area using the Partial Least Square (PLS) algorithm as a method to get the correlation between the independent variable and the dependent variable. Meanwhile, the Support Vector Machine (SVM) algorithm is used to predict dengue cases. Correlation results using PLS show that humidity has a higher effect on the number of DHF cases. the cross-loadings value obtained is 0.315865 with the accuracy value of the coefficient of determination (R2) is 0.099771. in the SVR algorithm, the best combination of data, parameter and kernel partitions is the data partition which has a ratio of 80:20 between training data and testing data with each parameter value of $C = 10$, gamma = 1, and epsilon = 0.05. The kernel used is the RBF kernel. The regression results from the DHF case data have an error value and a coefficient of determination of RMSE = 0.12314 and R2 = 0.58873.

Kata Kunci: *Dengue Hemorrhagic Fever*, *Partial Least Square*, Python, *Support Vector Machine*, *Website*