

Abstract

Cases of the COVID-19 pandemic and endemic dengue fever are still occurring in Indonesia. Therefore, research is needed to develop a predictive classification model for the transmission of COVID-19 and dengue fever for the next few years. The scenario used is an expansion of time-based features implemented in two algorithms, namely Support Vector Machine and Deep Neural Network. The dataset used relates to the number of COVID-19 cases and their features from November 2020 to April 2022, from 2017 to 2021 for the dengue case dataset. The research results show that the optimal prediction model for the DHF dataset is the model from the previous 3 years with an Akurasi of 90%. The model was produced using the SVM time-based feature expansion method with an optimal number of features of 7. Meanwhile, the most optimal COVID-19 classification prediction model was the previous 7-month model with an Akurasi of 93% and was produced by SVM time-based feature expansion. Meanwhile, for the DNN algorithm, it has not been able to outperform SVM performance for both the COVID-19 dataset and the DHF dataset.

Keywords: Classification Prediction, Feature Expansion, DHF, COVID-19, Machine Learning