

Abstract

Congestion is a problem that occurs when the number of vehicles exceeds the capacity of the road and the vehicle speed slows down. This issue is one of the main issues in big cities, including Bandung. In this study, this study aims to reduce traffic congestion in the city of Bandung. The classification process in this study uses the Support Vector Machine (SVM), Naive Bayes, and Ordinary Kriging methods. The data used is traffic counting data from ATCS in Bandung and direct observation. The traffic count data obtained contains 3804 rows. Three experimental scenarios were carried out to validate the effectiveness of the model used, the performance of the first model without oversampling, the performance of the second model with oversampling, and the performance of the third model with hyperparameter adjustment. The experimental results show that the Support Vector Machine method has higher accuracy than the Naive Bayes method, which is 93%, while the Naive Bayes method has an accuracy of 90%. The application of hyperparameter tuning and over-sampling is proven to overcome the problem of data imbalance and get better classification results. In addition, the best classification results are used in making classification maps, namely the Support Vector Machine method, and assisted with ordinary kriging to predict the surrounding area. The results of the congestion classification map show that the southern area of the city of Bandung is more unstable than other areas of the city of Bandung.

Keywords: *Congestion, Classification, Naive Bayes, Ordinary Kriging, SVM*