ABSTRACT

Effective handling of traffic complaints in Surabaya requires the ability to quickly identify the urgency level of each report. This study developed an automated classification system using the Support Vector Machine (SVM) method with TF-IDF weighting to categorize complaints into three urgency levels: low, medium, and high. The data were collected from platform X (formerly Twitter), specifically from mentions of the @e100ss account between December 2022 and December 2023, and processed through a series of preprocessing steps and class imbalance handling using back translation augmentation. Experimental results show that the combination of TF-IDF with the RBF kernel (C=1, gamma='scale') achieved an accuracy of 72.94% and a macro F1-score of 0.71, marking a significant improvement over the baseline. The classification system has been deployed as an interactive web dashboard using Streamlit to support visual analysis. These findings indicate that the SVM-based approach can assist the Department of Transportation and Radio Suara Surabaya in prioritizing complaint handling more efficiently and accurately.

Keywords: *Text Classification, Support Vector Machine, Traffic Complaints, TF-IDF, Urgency Level, Data Visualization*