ABSTRACT

Kuliah Kerja Nyata (KKN) is an intramural academic activity that engages university students in community empowerment initiatives. Despite its noble intentions, the program is often criticized for lacking tangible and sustainable impact. This study was motivated by the growing volume of public opinion on social media, particularly on platform X, which serves as a crucial indicator for evaluating the program's effectiveness. The research employs the Long Short-Term Memory (LSTM) method for sentiment classification, combined with the Synthetic Minority Oversampling Technique (SMOTE) to address class imbalance and enhance model accuracy. The research stages include data collection from social media, text preprocessing, data splitting, SMOTE application, LSTM model training and testing with various parameters, and performance evaluation using metrics such as accuracy, precision, recall, and F1-score. The results indicate that the optimal parameter configuration achieved a test accuracy of up to 79%. Furthermore, the sentiment analysis system was developed as a web application using Flask for the backend and React.js for the frontend, supported by a MySQL database to store classification history. This system not only enables more accurate analysis of public sentiment but also allows users to perform real-time classification. The study is expected to contribute to the evaluation and further development of the KKN program, making it more relevant and impactful for society.

***Keywords**: sentiment analysis, kuliah kerja nyata, X, LSTM, SMOTE*