Abstract

The 2024 Regional Elections in Indonesia have sparked significant public discourse, generating polarized opinions as citizens actively discuss political issues, particularly on social media platforms such as X. Sentiment analysis is essential to enhance the understanding of opinion polarization reflected in these discussions. This research applies hyperparameter tuning on Long Short-Term Memory (LSTM) models enhanced with FastText feature expansion to optimize sentiment analysis accuracy for tweets about Indonesia's 2024 Regional Elections. A dataset of 60,000 tweets was collected and labeled into positive, negative, or neutral sentiments. The research involves TF-IDF feature extraction, FastText feature expansion with top similarities of 1, 5, and 10 of Tweet, Indonews, and Tweet+Indonews corpus, followed by hyperparameter tuning to optimize LSTM parameters, including number of layer, hidden size, learning rate, and epoch. The optimized LSTM models, using a top 5 similarities in the Indonews corpus, achieved an accuracy of 77.64%, an increase of 1.14% over the baseline configuration accuracy of 76.50%. These findings demonstrate that integrating FastText with diverse corpus data and optimizing LSTM parameters enhances sentiment analysis performance, particularly for complex and dynamic datasets like tweets. This research provides valuable insights for various parties, such as candidates, campaign teams, media, or survey institutions to understand the dynamics of voters. Contributing on political domain to understanding of the polarization of opinions related to the Indonesia's 2024 Regional Elections through social media X.