Abstract

The 2024 Regional Elections (Pilkada) is a significant moment in Indonesia's democracy that will determine the direction of regional development. In this context, sentiment analysis can serve as an effective tool to understand public opinion towards the candidates and issues related to the Pilkada. This study aims to implement a sentiment analysis system using Convolutional Neural Network (CNN) optimized with Bat Algorithm and feature expansion using FastText. This method was applied to Indonesian-language tweet data collected during the 2024 Pilkada period. The evaluation results show that the highest accuracy was achieved using a max feature of 15,000 (73.01%), a Uni-Bigram configuration (73.30%), and feature expansion using FastText with the Tweet + IndoNews corpus at Top 1 (73.82%). Optimization with Bat Algorithm resulted in a 0.05% improvement (from 73.82% to 73.87%), indicating that FastText significantly improved the model's accuracy. Bat Algorithm proved effective in optimizing the model's parameters and made a positive contribution to performance improvement. This study demonstrates that the use of FastText can significantly improve the accuracy of sentiment analysis models, while Bat Algorithm also provides valuable contributions to model optimization.

Keywords: sentiment analysis, CNN, bat algorithm, fasttext, pilkada 2024, optimization