

ABSTRACT

The 2024 Jakarta Regional Head Election (Pilkada) is a critical issue that requires an in-depth understanding of public sentiment. Platform X (Twitter) as a source of public opinion data generates unstructured text with high complexity, such as informal language and context ambiguity. The lack of local context-specific datasets and the inaccuracy of traditional sentiment analysis models are major challenges. Sentiment analysis of the 2024 Jakarta regional election is important to evaluate public response to candidates' policies, assist political strategy planning, and improve the quality of governance. The lack of a system capable of handling complex data and class imbalance (neutrals dominate) leads to less representative information, creating a gap between current needs and solutions. This research develops a sentiment analysis system using four deep learning models: IndoBERT, LSTM, CNN, and GRU. The process involves data collection from X, preprocessing (text normalization, abbreviation handling, stemming), and model training with metrics-based evaluation of accuracy, precision, recall, and F1-score. The model was combined with data imbalance handling techniques to improve accuracy. The CNN model showed the best performance with 83.37% accuracy, followed by LSTM (82.61%), GRU (82.30%), and IndoBERT (80.77%). All models met the accuracy target of at least 80%, although the neutral class remains a challenge. Research contributions include a deep learning-based sentiment classification system that can be implemented in local political opinion analysis, as well as recommendations for using hybrid models (such as IndoBERT + CNN) for further research.

Keywords: *jakarta election, sentiment analysis, deep learning*