



PROJECT REPORT

Comparison of LSTM and Bi-LSTM algorithms on Twitter sentiment analytics
Tweet about "JOKO WIDODO"

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ABSTRACT

Social media, especially Twitter, is currently an important platform where people tweet opinions and react to different issues, including political figures. President Joko Widodo's name in tweets typically reflects the way people feel about him, thus being useful in determining sentiment patterns. The aim of this research is to compare the performance of two deep learning models—Long Short-Term Memory (LSTM) and Bidirectional LSTM (Bi-LSTM)—in identifying the sentiment of tweets about Joko Widodo.

The dataset was collected from Kaggle, more than a hundred raw data used to evaluate the two models. In order to enhance the accuracy the data augmentation was conducted. Evaluation of two models performances, four key metrics were used: accuracy, precision, recall, and F1-score. From the results, it was observed that the LSTM model outperformed the Bi-LSTM model across all the metrics of evaluation following the dataset balancing. These results show that LSTM is better for sentiment classification on short text like tweets in this case. Results of this study are expected to be able to improve sentiment analysis techniques, particularly in political cases of Indonesian social media.

Keywords: Bi-LSTM, LSTM, Joko Widodo, "Jokowi Tweets"