ABSTRACT

Development of Sentiment Analysis Application for Electronic Ticketing System Using Natural Language Processing

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The electronic ticketing system was implemented by the Indonesian National Police in Jakarta in 2018 and continues to be expanded to various cities. The Korlantas Polri said that the number of violations recorded by the electronic ticketing system reached 1.7 million by 2022. The presence of the electronic ticketing system causes various opinions from the public on social media Twitter. Natural language processing with LSTM architecture is used to analyze public opinion. The data pre-processing phase is case folding, cleaning, normalization, tokenization, stopword removal and stemming. The development method is prototype, the testing methods are black box and white box. LSTM modeling for sentiment classification achieved the highest accuracy at 77.4% with a batch size of 32, epoch 10, and a ratio of sharing data on 80:20. Public sentiment about the electronic ticketing system at the beginning of the release of electronic tickets and the end of 2022 has changed, the negative sentiment from 34% to 62% and the positive sentiment from 66% to 38%. The results of automatic and manual labeling made a difference. The most sentiment in automatic labeling is negative with a score of 60%. The most sentiment in manual labeling is neutral with a score of 79%. sentiment analysis modeling of the electronic ticketing system using LSTM architecture. The analysis results are built using statistical concepts with quantitative values described by Bar and Venn graphs. Sentiment in the most recent year's dataset has shifted towards the negative or counter.

Keywords: *electronic ticketing, LSTM, Twitter*

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