

Sentiment Analysis of the Kampus Merdeka Program on Twitter Using Support Vector Machine and a Feature Extraction Comparison: TF-IDF vs. FastText

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Abstract	<p>The Kampus Merdeka program, launched by the Indonesian Ministry of Education, Culture, Research, and Technology in 2020, aims to enhance students' skills through hands-on work experience. Considering the rising significance of social media, particularly Twitter, in gauging public opinion, this research focuses on analyzing the sentiment towards the Kampus Merdeka program. The primary objective is to classify the sentiments expressed in tweets related to the program and compare two feature extraction techniques—TF-IDF and FastText—to identify the best approach for transforming text data into numerical vectors. The sentiment classification model was built using the Support Vector Machine (SVM) algorithm, a machine learning technique known for its accuracy in text classification. A total of 16,730 tweets were collected and analyzed, yielding an accuracy of 73% for FastText and 72% for TF-IDF. Results show that FastText is more effective in capturing semantic relationships, leading to higher accuracy in sentiment classification. Findings indicate that the public sentiment towards the Kampus Merdeka program is predominantly positive (60.7%), with negative and neutral sentiments at 33.5% and 5.8%, respectively. The success of the FastText method underscores the importance of advanced feature extraction techniques in text classification. The novelty of this research lies in its use of FastText for educational policy evaluation, providing a new perspective on using sentiment analysis to assess public perception of educational programs.</p>
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