

Emotion Classification Based on Social Media X Posting Patterns in Bahasa Using RoBERTa

Zaidan Ibnuabil Iryanto¹, Warih Maharani²
Fakultas Informatika, Universitas Telkom, Bandung
ibnusabil@student.telkomuniversity.ac.id,
wmaharani@telkomuniversity.ac.id

Abstract

Emotion classification is an essential aspect of natural language processing, especially in understanding user interactions on social media. Social media platform X serves as a rich data source where users express diverse emotions through posts. This research introduces a novel comparison of preprocessing strategies for handling Indonesian slang in social media posts, utilizing RoBERTa for classifying emotions in Bahasa Indonesia tweets. The dataset comprises 8,978 labeled tweets categorized into four emotion classes, namely happy, angry, sad, and fear. This research compares full preprocessing and half preprocessing methods. Full preprocessing, which includes normalization, stemming, and stopword removal, achieved the highest accuracy of 75.01% and F1-score of 0.750. In contrast, half preprocessing, which focuses on case folding, cleansing, and tokenization while retaining slang and informal expressions, achieved an accuracy of 70.68% and F1-score of 0.714. Retaining slang in half preprocessing introduces greater linguistic diversity but also increases noise, which makes it challenging for RoBERTa to identify consistent emotional patterns. However, full preprocessing eliminates slang and informal expressions, reducing noise and enabling RoBERTa to better generalize across the dataset. These findings underscore the impact of preprocessing strategies on RoBERTa's ability to handle Indonesian social media datasets and highlight its potential applications in improving emotion classification tasks for informal and noisy text.

Keywords: emotion classification, RoBERTa, social media, Indonesian tweets, preprocessing.
