

ANALISIS SENTIMEN OPINI PUBLIK PADA AKUN INSTAGRAM RESMI UNIVERSITAS MALIKUSSALEH MENGGUNAKAN ALGORITMA NAIVE BAYES CLASSIFIER BERBASIS WEB

ABSTRAK

Instagram resmi Universitas Malikussaleh (@univ.malikussaleh) menghasilkan volume komentar publik yang tinggi setiap harinya, namun pengelolaan komentar tersebut masih dilakukan secara manual sehingga rawan mengabaikan sentimen negatif yang berpotensi merusak reputasi digital kampus. Kondisi ini menimbulkan kebutuhan akan sistem yang mampu memantau opini publik secara otomatis dan efisien. Penelitian ini bertujuan mengimplementasikan teknik *scraping* dan *preprocessing* teks, mengukur tingkat akurasi algoritma *Naive Bayes Classifier* (NBC) dalam mengklasifikasikan opini publik ke dalam tiga kelas (positif, negatif, netral), serta membangun sistem analisis sentimen berbasis *web* sebagai alat bantu *monitoring* bagi pihak Humas Universitas Malikussaleh. Penelitian ini menggunakan pendekatan kuantitatif deskriptif dengan metode pengembangan sistem *Waterfall*. Data primer sebanyak 1.494 komentar dikumpulkan melalui *web scraping*, dilabeli secara manual, kemudian melalui enam tahap *preprocessing* (*case folding*, *cleaning*, normalisasi kata tidak baku, tokenisasi, penghapusan *stopword*, dan *stemming*), sehingga tersisa 1.470 komentar bersih. Fitur teks diekstraksi menggunakan metode TF-IDF, dan data dibagi dengan rasio 80:20 untuk data latih dan data uji. Sistem dikembangkan menggunakan bahasa pemrograman Python, *framework* Flask, dan basis data MySQL agar dapat diakses secara daring oleh pengguna. Hasil pengujian menunjukkan bahwa algoritma NBC mencapai akurasi sebesar 77,55%, *macro average precision* 77,12%, *macro average recall* 77,47%, dan *macro average F1-score* 77,07%, yang tergolong kategori "cukup baik". Pengujian usabilitas menggunakan *System Usability Scale* (SUS) terhadap 15 responden menghasilkan skor rata-rata 73,17 dengan kategori "Baik (*Good*)". Hasil penelitian menunjukkan bahwa sistem yang dikembangkan dapat digunakan sebagai alat bantu *monitoring* opini publik yang cukup akurat dan dapat diterima dengan baik oleh penggunaannya, sehingga berpotensi mendukung pengambilan keputusan pihak Humas dalam merespons opini masyarakat secara lebih cepat dan tepat.

Kata Kunci: *Analisis sentimen, Naive Bayes Classifier, Instagram, Text Mining, System Berbasis Web*

PUBLIC OPINION SENTIMENT ANALYSIS ON THE OFFICIAL INSTAGRAM ACCOUNT OF UNIVERSITAS MALIKUSSALEH USING A WEB-BASED NAIVE BAYES CLASSIFIER ALGORITHM

ABSTRACT

The official Instagram account of Universitas Malikussaleh (@univ.malikussaleh) generates a high volume of public comments daily, yet these comments are still managed manually, risking the oversight of negative sentiments that could damage the university's digital reputation. This condition highlights the need for a system capable of monitoring public opinion automatically and efficiently. This study aims to implement text scraping and preprocessing techniques, measure the accuracy of the Naive Bayes Classifier (NBC) algorithm in classifying public opinion into three classes (positive, negative, and neutral), and build a web-based sentiment analysis system as a monitoring tool for the Public Relations division of Universitas Malikussaleh. This research employs a descriptive quantitative approach with the Waterfall system development method. A total of 1,494 comments were collected as primary data through web scraping, manually labeled, and processed through six preprocessing stages, namely case folding, cleaning, non-standard word normalization, tokenization, stopword removal, and stemming, resulting in 1,470 clean comments. Text features were extracted using the TF-IDF method, and the data was split at an 80:20 ratio for training and testing. The system was developed using Python, the Flask framework, and a MySQL database so it can be accessed online by users. Test results show that the NBC algorithm achieved an overall accuracy of 77.55%, a macro average precision of 77.12%, a macro average recall of 77.47%, and a macro average F1-score of 77.07%, which falls into the "fairly good" category. Usability testing using the System Usability Scale (SUS) with 15 respondents produced an average score of 73.17, categorized as "Good." These results indicate that the developed system can serve as a fairly accurate and efficient public opinion monitoring tool that is well accepted by its users, and thus has the potential to support the Public Relations division in responding to public opinion more quickly and appropriately.

Keywords: *Sentiment Analysis, Naive Bayes Classifier, Instagram, Text Mining, Web-Based System*