

## ABSTRAK

Rahmatullah, Muhammad Ni'mad. 2025. Penerapan Algoritma Multinomial Naïve Bayes Untuk Klasifikasi Sentimen Pada Hashtag #Kaburajadulu Di Media Sosial X Tugas Akhir. Program Sarjana. Program Studi Teknik Informatika. Universitas Muhammadiyah Jember.

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Penelitian ini dilakukan untuk mengkaji sentimen pengguna media sosial X terhadap isu yang berkembang melalui penggunaan hashtag #KaburAjaDulu dengan memanfaatkan algoritma *Multinomial Naïve Bayes*. Data penelitian diperoleh melalui proses crawling pada periode 10 Januari 2025 hingga 3 Maret 2025, sehingga terkumpul 1.164 komentar, yang terdiri atas 724 sentimen positif dan 440 sentimen negatif. Pada tahap awal, dataset dibagi menjadi data latih dan data uji dengan rasio 80:20, di mana data latih digunakan untuk membangun model dan data uji digunakan untuk pengujian. Tahapan prapemrosesan data meliputi pembersihan teks, tokenisasi, penghapusan stopword, *stemming*, serta pembobotan kata menggunakan metode *TF-IDF*. Selanjutnya, proses optimasi hyperparameter dilakukan dengan metode *Random Search*, sedangkan evaluasi performa model dilakukan menggunakan *K-Fold Cross Validation*, yang menghasilkan nilai akurasi sebesar 70%. Pemilihan algoritma *Multinomial Naïve Bayes* didasarkan pada kemampuannya dalam merepresentasikan data teks berdasarkan distribusi frekuensi kata. Berdasarkan hasil pengujian akhir, model yang dibangun mencapai tingkat akurasi sebesar 72%. Pada kelas sentimen positif, model memperoleh nilai presisi 76%, recall 83%, dan *F1-score* 79%, sementara pada kelas sentimen negatif diperoleh nilai presisi 63%, recall 53%, dan *F1-score* 57%. Hasil tersebut menunjukkan bahwa model mampu membedakan sentimen positif dan negatif secara memadai. Secara keseluruhan, penelitian ini menunjukkan bahwa pendekatan yang diterapkan dapat digunakan untuk memetakan kecenderungan sentimen publik dalam percakapan di media sosial, khususnya pada isu yang berkembang melalui penggunaan hashtag.

**Kata Kunci:** #Kaburajadulu, Analisis Sentiment, *Multinomial Naïve Bayes*, *Confusion Matrix*

## **ABSTRACT**

Rahmatullah, Muhammad Ni'mad. 2025. *Implementation of the Multinomial Naïve Bayes Algorithm for Sentiment Classification on the #KaburAjaDulu Hashtag on Social Media X. Undergraduate Thesis. Bachelor's Program, Informatics Engineering Study Program, Universitas Muhammadiyah Jember.*

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*This study aims to examine user sentiment on the social media platform X regarding issues that emerge through the use of the #KaburAjaDulu hashtag by applying the Multinomial Naïve Bayes algorithm. The research data were collected through a crawling process conducted from January 10, 2025, to March 3, 2025, resulting in 1,164 comments, consisting of 724 positive and 440 negative sentiments. In the initial stage, the dataset was divided into training and testing sets using an 80:20 ratio, where the training data were used to build the model and the testing data were used for evaluation. The data preprocessing steps included text cleaning, tokenization, stopword removal, stemming, and term weighting using the TF-IDF method. Furthermore, hyperparameter optimization was performed using the Random Search method, while model performance was evaluated through K-Fold Cross Validation, which produced an accuracy of 70%. The selection of the Multinomial Naïve Bayes algorithm was based on its ability to represent textual data through word frequency distributions. Based on the final evaluation, the developed model achieved an accuracy of 72%. For the positive sentiment class, the model obtained a precision of 76%, a recall of 83%, and an F1-score of 79%, whereas for the negative sentiment class, the precision, recall, and F1-score were 63%, 53%, and 57%, respectively. These results indicate that the proposed approach is capable of distinguishing between positive and negative sentiments. Overall, this study demonstrates that the applied approach can be utilized to map public sentiment trends in social media discussions, particularly on topics that spread through hashtag usage.*

**Keywords:** #Kaburajadulu, Analisis Sentiment, Multinomial Naïve Bayes, Confusion Matrix