

ABSTRAK

Mobil listrik menjadi inovasi penting dalam upaya mengurangi emisi dan ketergantungan terhadap bahan bakar fosil. Namun, persepsi masyarakat terhadap penggunaan mobil listrik masih beragam dan tercermin melalui opini publik di media digital. Data berupa teks opini masyarakat dikumpulkan dan diproses melalui tahapan preprocessing, kemudian direpresetasikan menggunakan metode Term Frequency-Inverse Document Frequency (TF-IDF). Penelitian ini menerapkan dua skenario penyeimbangan data, yaitu undersampling dan oversampling, serta menggunakan validasi K-Fold Cross Validation. Algoritma yang diuji meliputi Multinomial dan Bernoulli Naïve Bayes serta SVM linear dan RBF dengan variasi parameter. Hasil penelitian menunjukkan bahwa skenario oversampling menghasilkan performa klasifikasi yang lebih baik dibandingkan undersampling. Algoritma Bernoulli Naïve Bayes memperoleh akurasi tertinggi sebesar 91,07%, sedangkan SVM menghasilkan akurasi terbaik sebesar 90,53%. Berdasarkan hasil tersebut, dapat disimpulkan bahwa Naïve Bayes lebih unggul dalam mengklasifikasikan sentimen opini publik terhadap penggunaan mobil listrik pada penelitian ini.

Kata kunci: Analisis Sentimen, Mobil Listrik, *Naïve Bayes*, *Support Vector Machine*

ABSTRACT

Electric vehicles have become an important innovation in efforts to reduce emissions and dependence on fossil fuels. However, public perceptions of electric vehicle usage remain diverse and are reflected in public opinions on digital media. Text-based public opinion data were collected and processed through preprocessing stages, then represented using the Term Frequency–Inverse Document Frequency (TF-IDF) method. This study applied two data balancing scenarios, namely undersampling and oversampling, and employed K-Fold Cross Validation. The algorithms evaluated included Multinomial and Bernoulli Naïve Bayes, as well as linear and RBF Support Vector Machine (SVM) with various parameter settings. The results indicate that the oversampling scenario produced better classification performance compared to undersampling. The Bernoulli Naïve Bayes algorithm achieved the highest accuracy of 91.07%, while the best accuracy obtained by SVM was 90.53%. Based on these results, it can be concluded that Naïve Bayes outperformed SVM in classifying public opinion sentiment toward electric vehicle usage in this study..

Keywords: Analisis Sentimen, Mobil Listrik, Naïve Bayes, Support Vector Machine

