

ABSTRAK

Penelitian ini bertujuan untuk mengetahui dan menganalisis sentimen masyarakat terhadap mobil listrik berbasis baterai di Indonesia cenderung positif, negatif, atau netral. Lalu, peneliti akan menganalisis aspek yang terdapat pada komentar positif, negatif, dan netral.

Dalam menganalisis sentimen, peneliti menggunakan objek penelitian berupa komentar pada 15 video mobil listrik baterai yang dijual di Indonesia yang menggunakan Bahasa Indonesia pada media sosial YouTube dengan batasan sampai tanggal 31 Januari 2024. Data tersebut didapatkan menggunakan metode *data crawling*, dengan pendekatan kualitatif, dan metode *purposive sampling*. Setelah dilakukan prapemrosesan data, ditemukan sekitar 4299 data. Penelitian ini akan menganalisis opini komentar masyarakat menggunakan metode analisis sentimen dengan algoritma *Bidirectional Encoder Representations from Transformers* (BERT) melalui perangkat lunak Google Colab.

Hasil dari analisis sentimen ditemukan sentimen netral 46,7%, sentimen negatif 28,9%, dan sentimen positif 24,4% terhadap mobil listrik baterai. Hasil dari algoritma *Bidirectional Encoder Representations from Transformers* (BERT) mendapatkan akurasi sebesar 76,6%. Pada sentimen netral, terdapat aspek keamanan, kenyamanan, jarak tempuh, durasi pengisian, perawatan, dan biaya operasional mobil listrik berbasis baterai. Pada sentimen negatif terdapat aspek keamanan, perawatan, harga, durasi pengisian, kualitas buatan, distribusi, penampilan, dan infrastruktur. Pada sentimen positif, terdapat aspek penampilan, ramah lingkungan, fitur, performa, pajak, keamanan, kenyamanan, dan harga.

Kata kunci: Pembelajaran Bahasa Alami, Analisis Sentimen, Mobil Listrik Berbasis Baterai, Pembelajaran Mesin Mendalam, *Bidirectional Encoder Representations from Transformers* (BERT).

ABSTRACT

This study aims to determine and analyze public sentiment towards battery-based electric cars in Indonesia which tend to be positive, negative, or neutral. Then, researchers will analyze the aspects contained in positive, negative, and neutral comments.

In analyzing sentiment, researchers use research objects in the form of comments on 15 videos of battery electric cars sold in Indonesia using Indonesian language on YouTube social media until January 31, 2024. Data was obtained using the data crawling method, with a qualitative approach, and purposive sampling method. After preprocessing the data, about 4299 data were found. This research will analyze public comment opinions using the sentiment analysis method with the Bidirectional Encoder Representations from Transformers (BERT) algorithm through Google Colab software.

The results of sentiment analysis found 46.7% neutral sentiment, 28.9% negative sentiment, and 24.4% positive sentiment towards battery electric cars. The results of the Bidirectional Encoder Representations from Transformers (BERT) algorithm get an accuracy of 76.6%. In neutral sentiments, there are aspects of safety, comfort, mileage, charging duration, maintenance, and operational costs of battery-based electric cars. In negative sentiments, there are aspects of safety, maintenance, price, charging duration, build quality, distribution, appearance, and infrastructure. In positive sentiments, there are aspects of appearance, environmental friendliness, features, performance, taxes, safety, comfort, and price.

Keywords: Natural Language Learning, Sentiment Analysis, Battery-based Electric Car, Deep Machine Learning, Bidirectional Encoder Representations from Transformers (BERT).