ANALISIS SENTIMEN PENGUNJUNG TERHADAP FASILITAS DAN PELAYANAN DI PANTAI PUDAK MENGGUNAKAN ALGORITMA LSTM

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ABSTRAK

Penelitian ini bertujuan untuk menganalisis sentimen pengunjung terhadap fasilitas dan layanan di Pantai Pudak menggunakan algoritma *Long Short-Term Memory* (LSTM). Penelitian ini menggunakan jenis penelitian terapan dengan pendekatan *text mining* dan teknik analisis sentimen berbasis *deep learning*. Sebanyak 628 data ulasan dari *Google Maps* dikumpulkan dan melalui tahapan *preprocessing* teks yang meliputi *cleaning*, *case folding*, *tokenizing*, *stopword removal*, dan *stemming*, menghasilkan 419 data bersih yang siap dianalisis. Ulasan tersebut kemudian diklasifikasikan ke dalam tiga kategori sentimen, yaitu positif, netral, dan negatif. Hasil klasifikasi menunjukkan bahwa 306 ulasan (73,03%) bersentimen positif, 69 ulasan (16,47%) netral, dan 44 ulasan (10,5%) negatif. Evaluasi performa model dilakukan menggunakan *confusion matrix* dengan metrik akurasi, presisi, recall, dan F1-score. Hasil pengujian menunjukkan bahwa model LSTM mencapai akurasi sebesar 96% pada data latih dan 74% pada data uji. Nilai *precision*, *recall*, dan *F1-score* tertinggi diperoleh pada sentimen positif, sementara kategori netral dan negatif memiliki performa lebih rendah karena distribusi data yang tidak seimbang. Penelitian ini memberikan gambaran nyata mengenai persepsi pengunjung dan menunjukkan potensi penerapan *big data* serta *Natural Language Processing* (NLP) dalam pengambilan keputusan strategis sektor pariwisata.

Kata kunci : Analisis Sentimen, Fasilitas dan Layanan, Pantai Pudak, *Long Short-Term Memory*, *Google Colab*.

SENTIMENT ANALYSIS OF VISITORS TOWARDS FACILITIES AND SERVICES AT PUDAK BEACH USING THE LSTM ALGORITHM

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ABSTRACT

This study aims to analyze visitor sentiment toward the facilities and services at Pudak Beach using the Long Short-Term Memory (LSTM) algorithm. The research adopts an applied study approach with text mining and deep learning-based sentiment analysis techniques. A total of 628 reviews were collected from Google Maps and processed through text preprocessing stages, including cleaning, case folding, tokenizing, stopword removal, and stemming, resulting in 419 clean data ready for analysis. The reviews were then classified into three sentiment categories: positive, neutral, and negative. The classification results showed that 306 reviews (73.03%) were positive, 69 reviews (16.47%) were neutral, and 44 reviews (10.5%) were negative. Model performance was evaluated using a confusion matrix with accuracy, precision, recall, and F1-score metrics. The test results showed that the LSTM model achieved an accuracy of 96% on the training data and 74% on the test data. The highest precision, recall, and F1-score were obtained in the positive sentiment category, while the neutral and negative categories performed lower due to imbalanced data distribution. This study provides a real picture of visitor perceptions and demonstrates the potential of applying big data and Natural Language Processing (NLP) in strategic decision-making in the tourism sector.

Keywords: *Sentiment Analysis, Facilities and Services, Pudak Beach, Long Short-Term Memory, Google Colab.*