

**ANALISIS SENTIMEN BERBASIS ASPEK TERHADAP ULASAN TEMPAT
WISATA PESISIR DI BALI PADA GOOGLE MAPS MENGGUNAKAN
BIDIRECTIONAL ENCODER REPRESENTATIONS FROM TRANSFORMERS
(BERT)**

Oleh

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ABSTRAK

Penelitian ini bertujuan untuk menganalisis sentimen berbasis aspek terhadap ulasan wisata pesisir di Bali menggunakan model Hybrid BERT dengan LDA. Data set diperoleh melalui proses *web scraping* dengan total sekitar 22.000 ulasan. Sebanyak 2.000 data digunakan sebagai data set terkontrol untuk pelatihan model, sedangkan 20.000 data lainnya digunakan untuk analisis tren sentimen berdasarkan waktu. Hasil evaluasi menunjukkan bahwa model mampu mengklasifikasikan aspek dan sentimen secara simultan dengan nilai F1-score makro yang stabil di atas 0,84. Kemudian LDA dilatih menggunakan 20.000 data asli dan terbentuk 5 topik untuk kemudian dihubungkan dengan 3 aspek yang ada untuk membantu dan menjadi *secondary opinion* dalam model. Analisis prediksi tren menunjukkan bahwa aspek Experience mendominasi ulasan dan sentimen positif konsisten mendominasi sepanjang periode pengamatan. Terdapat beberapa lonjakan ulasan *negative* pada aspek *accessibility* dan *service* diakhir dan awal tahun menandakan tekanan operasional dan kemudahan akses mulai berkontribusi terhadap munculnya sentimen negatif ketika intensitas kunjungan meningkat. Disarankan untuk penelitian selanjutnya menggunakan data anotasi yang lebih besar, mengembangkan pendekatan ABSA lebih lanjut dengan melakukan perbandingan antar lokasi wisata atau pengaruh peristiwa tertentu terhadap perubahan sentimen.

Kata Kunci: *Deep learning, Distant Supervised Learning, BERT, LDA, ABSA, analisis sentimen.*

**" ASPECT BASED SENTIMENT ANALYSIS OF COASTAL TOURISM DESTINATION
REVIEWS IN BALI ON GOOGLMAPS USING BIDIRECTIONAL ENCODER
REPRESENTATIONS FROM TRANSFORMERS (BERT)"**

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ABSTRACT

This study aims to analyze aspect-based sentiment in coastal tourism reviews in Bali by employing a hybrid BERT–LDA model the dataset was collected through web scraping covering coastal tourism destinations in Bali and comprising approximately 22,000 reviews. From this dataset, 2,000 reviews were utilized as a controlled dataset for supervised model training and evaluation, while the remaining 20,000 reviews were employed for temporal sentiment trend analysis. Evaluation results indicate that the proposed model is capable of simultaneously classifying aspects and sentiments with stable macro F1-scores exceeding 0.84. Furthermore, the LDA model was trained on the full set of 20,000 unlabeled reviews, generating five latent topics that were subsequently mapped to three predefined aspects to function as a secondary opinion within the hybrid framework. Temporal trend analysis reveals that the Experience aspect consistently dominates the review content, with positive sentiment prevailing throughout the observation period. However, noticeable increases in negative sentiment related to Accessibility and Service aspects are observed at the beginning and end of the year, indicating that operational pressure and access-related challenges contribute to negative perceptions during periods of intensified visitor activity. Future research is recommended to incorporate larger annotated datasets, further refine aspect-based sentiment analysis approaches, and conduct comparative studies across different tourism locations or examine the impact of specific events on sentiment dynamics.

Keywords: — Deep learning, Distant Supervised Learning, BERT, LDA, ABSA, analisis sentimen