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ANALISIS SENTIMEN BERBASIS ASPEK PADA ULASAN RUMAH SAKIT MENGGUNAKAN ROBERTA
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Universitas Gadjah Mada, 2026 | Diunduh dari http://etd.repository.ugm.ac.id/

INTISARI

ANALISIS SENTIMEN BERBASIS ASPEK PADA ULASAN RUMAH SAKIT MENGGUNAKAN ROBERTA

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23/530614/PPA/06740

Analisis sentimen pada ulasan rumah sakit menjadi salah satu pendekatan untuk memahami persepsi masyarakat terhadap kualitas layanan kesehatan. Ulasan pasien yang tersedia dalam media digital mengandung informasi terkait berbagai aspek layanan, seperti pelayanan, fasilitas, dan sumber daya manusia (SDM). Namun, data teks yang tidak terstruktur, variasi penggunaan bahasa, serta keberadaan beberapa aspek dalam satu ulasan menjadi tantangan dalam proses klasifikasi sentimen.

Penelitian ini menerapkan *Aspect-Based Sentiment Analysis* (ABSA) menggunakan model RoBERTa *(A Robustly Optimized BERT Pretraining Approach)* untuk mengklasifikasikan sentimen ulasan rumah sakit berbahasa Indonesia berdasarkan aspek layanan. Dataset yang digunakan berupa ulasan rumah sakit dengan empat kelas sentimen, yaitu positif, negatif, netral, dan none, serta mencakup tiga aspek utama, yaitu pelayanan, fasilitas, dan SDM.

Tahapan penelitian meliputi Exploratory Data Analysis (EDA), tokenisasi menggunakan tokenizer RoBERTa, pembagian dataset, penerapan fine-tuning, serta evaluasi model menggunakan akurasi dan Macro F1-score. Untuk menangani distribusi kelas yang tidak seimbang, penelitian menerapkan metode class weight pada proses pelatihan model. Hasil evaluasi menunjukkan bahwa model RoBERTa memperoleh akurasi keseluruhan sebesar 83,51% dan *Macro F1-score* sebesar 65,22%. Hasil tersebut menunjukkan bahwa RoBERTa dapat digunakan untuk melakukan klasifikasi sentimen berbasis aspek pada ulasan rumah sakit, meskipun masih terdapat tantangan dalam mengenali beberapa kelas sentimen dengan jumlah data yang lebih terbatas.

Kata Kunci: ABSA, RoBERTa, Ulasan Rumah Sakit, Pemrosesan Bahasa Alami, Klasifikasi Sentimen.

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ABSTRACT

ASPECT-BASED SENTIMENT ANALYSIS OF HOSPITAL REVIEWS USING ROBERTA

by

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Sentiment analysis of hospital reviews is an important approach to understanding public perceptions of healthcare service quality. Patient reviews shared through digital media contain valuable information about various aspects of hospital services, such as service quality, facilities, and human resources (HR). However, the unstructured nature of textual data, variations in language expression, and the possibility of multiple aspects appearing in a single review pose challenges to accurate sentiment classification.

This study applies an *Aspect-Based Sentiment Analysis* (ABSA) approach using the RoBERTa model (*A Robustly Optimized BERT Pretraining Approach*) to classify sentiments in hospital reviews in Indonesia based on specific aspects. RoBERTa is used because of its ability to understand language context bidirectionally and its strong performance in various *Natural Language Processing* (NLP) tasks, including text classification and sentiment analysis. The dataset used in this study consists of Indonesian-language hospital reviews labeled with sentiment classes, namely positive, negative, neutral, and *none*, and covers three main aspects of hospital service quality: service, facilities, and human resources.

The research methodology includes *Exploratory Data Analysis* (EDA), tokenization using the RoBERTa tokenizer, dataset splitting into training and testing data, and *fine-tuning* the RoBERTa model for aspect-based sentiment classification. Model performance was evaluated using accuracy and Macro F1-score to assess the model's ability to classify each sentiment class, particularly in data with imbalanced class distribution. The results show that the RoBERTa model after *fine-tuning* achieved an overall accuracy of 83.51% and an overall Macro F1-score of 65.22%. These results indicate that RoBERTa is capable of performing aspect-based sentiment classification on hospital reviews in Indonesia with fairly good performance, although challenges remain in certain sentiment classes, especially those with fewer data samples or less explicit language characteristics.

Keywords: ABSA, RoBERTa, Hospital Reviews, Natural Language Processing, Sentiment Classification.