

ABSTRAK

Pariwisata candi di Jawa Tengah menjadi pilar ekonomi daerah yang memicu tingginya volume opini digital di platform Google Maps. Penelitian ini difokuskan pada penerapan model Bidirectional Long Short-Term Memory (BiLSTM) untuk mengklasifikasikan sentimen ulasan pengunjung ke dalam label positif, netral, dan negatif. Kendala utama yang dihadapi adalah adanya ketimpangan distribusi kelas (imbalanced data) yang berpotensi memicu bias pada prediksi model. Rangkaian metodologi yang diterapkan meliputi preprocessing, word embedding, teknik penyeimbangan data melalui Random OverSampling, serta fase pelatihan dan evaluasi model. Temuan penelitian membuktikan bahwa penanganan data seimbang secara drastis mengoptimalkan kinerja model dengan pencapaian metrik accuracy, precision, recall, dan F1-score pada angka 95%. Skor AUC yang mendekati sempurna menegaskan stabilitas serta sensitivitas BiLSTM dalam membedakan konteks linguistik bahasa Indonesia yang rumit. Riset ini memberikan manfaat praktis sebagai alat evaluasi otomatis bagi pengelola wisata sekaligus memperkaya literatur akademis mengenai pemanfaatan deep learning dalam bidang Natural Language Processing (NLP).

Kata kunci: Analisis sentimen, BiLSTM, *deep learning*, *Google Maps*, pariwisata candi.

ABSTRACT

Temple tourism in Central Java serves as a vital economic pillar, generating a high volume of digital opinions on the Google Maps platform. This research focuses on implementing the Bidirectional Long Short-Term Memory (BiLSTM) model to classify visitor review sentiments into positive, neutral, and negative labels. The primary obstacle encountered is the imbalanced class distribution, which potentially triggers bias in model predictions. The applied methodological sequence includes preprocessing, word embedding, data balancing techniques through Random OverSampling, and the model training and evaluation phases. Research findings prove that handling balanced data drastically optimizes model performance, achieving accuracy, precision, recall, and F1-score metrics at 95%. AUC scores approaching perfection confirm the stability and sensitivity of BiLSTM in distinguishing complex Indonesian linguistic contexts. This study provides practical benefits as an automated evaluation tool for tourism managers while enriching academic literature regarding the utilization of deep learning in Natural Language Processing (NLP).

Keywords: Sentiment analysis, BiLSTM, deep learning, Google Maps, temple tourism.