INTISARI

Perkembangan teknologi dan akses internet yang semakin mudah telah membawa dampak signifikan pada penggunaan media sosial, salah satunya pada industri perhotelan. Penelitian ini menggali analisis sentimen review hotel di Purwokerto menggunakan metode support vector machine (SVM) dengan membandingkan empat jenis kernel yaitu kernel linear, RBF, polynomial, dan sigmoid. Penelitian ini memanfaatkan k-fold cross-validation dengan 10-fold untuk membantumengurangi risiko overfitting atau underfitting, serta memberikan estimasi kinerja model yang lebih stabil. Dan teknik SMOTE untuk menangani ketidakseimbangandalam data. Hasil perbandingan performa model menunjukkan akurasi rata-rata keseluruhan sekitar 89%, dengan kernel RBF menonjol memiliki rata-rata akurasi 90%, presisi 92%, recall 96%, dan f1-score 94%. Kesimpulan ini menegaskan bahwa implementasi kernel RBF pada support vector machine (SVM) memberikankinerja terbaik dalam mengklasifikasikan analisis sentimen review hotel di Purwokerto, menangkap kompleksitas pola non-linear dengan presisi dan recall yang seimbang. Dengan demikian, dapat disimpulkan bahwa penggunaan kernel RBF dibantu oleh k-fold cross-validation dan SMOTE pada model Support VectorMachine (SVM) sangat sesuai untuk analisis sentimen ulasan hotel di Purwokerto, dalam mengklasifikasikan sentimen review hotel dengan akurat.

Kata Kunci: Analisis Sentimen, Review Hotel, Support Vector Machine, Kernel

ABSTRACT

The ease of technology development and internet access has significantly impacted the utilization of social media, particularly in the hospitality industry. This study explores sentiment analysis of hotel reviews in Purwokerto using the support vector machine (SVM) method by comparing four types of kernels: linear, RBF, polynomial, and sigmoid. The research incorporates k-fold cross-validation with 10 folds to help reduce the risk of overfitting or underfitting, providing a more stable performance estimation for the model. Additionally, the SMOTE technique is applied to address data imbalance. The results of the model performance comparison show an overall average accuracy of around 89%, with the RBF kernel standing out with an average accuracy of 90%, precision of 92%, recall of 96%, and an F1-score of 94%. This conclusion affirms that the implementation of the RBF kernel in the support vector machine (SVM) yields the best performance in classifying sentiment analysis of hotel reviews in Purwokerto, capturing the complexity of non-linear patterns with balanced precision and recall. Thus, it can be concluded that the use of the RBF kernel, assisted by k-fold cross-validation and SMOTE in the Support Vector Machine (SVM) model, is highly suitable for sentiment analysis of hotel reviews in Purwokerto, accurately classifying hotel review sentiments.

Keywords: Sentiment Analysis, Hotel Review, Support Vector Machine, Kernel