

ABSTRAK

Pesatnya perkembangan teknologi informasi meningkatkan interaksi pengguna terhadap aplikasi digital, salah satunya melalui komentar di Google Play Store. Komentar tersebut mengandung opini dan sentimen yang berguna untuk mengevaluasi kualitas aplikasi. Namun, jumlah data yang besar membuat analisis manual menjadi tidak efisien. Penelitian ini membahas bagaimana mengklasifikasikan sentimen pengguna terhadap aplikasi Spotify secara akurat serta mengevaluasi pengaruh optimasi parameter terhadap kinerja metode klasifikasi.

Penelitian dilakukan dengan mengumpulkan komentar pengguna Spotify dari Google Play Store dan melalui tahapan pra-pemrosesan seperti pembersihan teks, tokenisasi, stopword removal, dan stemming. Algoritma Support Vector Machine (SVM) digunakan sebagai metode klasifikasi, dengan Particle Swarm Optimization (PSO) sebagai metode optimasi parameter. Sistem dikembangkan menggunakan bahasa pemrograman Python dan dievaluasi dengan metrik akurasi, presisi, recall, dan F1-score.

Hasil evaluasi menunjukkan bahwa SVM yang dioptimasi dengan PSO memberikan peningkatan kinerja dibandingkan SVM tanpa PSO. Dari hasil lima kali pengujian, model SVM tanpa optimasi menghasilkan rata-rata akurasi sebesar 77,94%, presisi 41,32%, recall 38,64%, dan F1-score 38,60%. Sementara itu, model SVM yang telah dioptimasi menggunakan PSO menunjukkan peningkatan dengan rata-rata akurasi 78,22%, presisi 50,90%, recall 40,14%, dan F1-score 40,34%.

Kata Kunci: Analisis Sentimen, Support Vector Machine, Particle Swarm Optimization, Optimasi Parameter, Komentar Google Playstore

ABSTRACT

The rapid development of information technology has increased user interaction with digital applications, especially through comments on the Google Play Store. These comments contain valuable opinions and sentiments that help evaluate application quality. However, the large volume of data makes manual analysis inefficient. This study discusses how to accurately classify user sentiment toward the Spotify application and evaluates the effect of parameter optimization on classification performance.

The research involved collecting user comments on Spotify from the Google Play Store, followed by preprocessing steps such as text cleaning, tokenization, stopword removal, and stemming. Support Vector Machine (SVM) was used for classification, while Particle Swarm Optimization (PSO) was applied to optimize model parameters. The system was developed using Python and evaluated using metrics including accuracy, precision, recall, and F1-score.

The evaluation results show that SVM optimized with PSO provides improved performance compared to SVM without PSO. Based on five tests, the unoptimized SVM model achieved an average accuracy of 77.94%, precision of 41.32%, recall of 38.64%, and F1-score of 38.60%. Meanwhile, the SVM model optimized with PSO showed improvements with an average accuracy of 78.22%, precision of 50.90%, recall of 40.14%, and F1-score of 40.34%.

Keywords: *Sentiment Analysis, Support Vector Machine, Particle Swarm Optimization, Parameter Optimization, Google Playstore Comment*