

ABSTRAK

Pulau Madura memiliki potensi pariwisata yang beragam, namun banyaknya destinasi wisata dan informasi yang tersebar pada ulasan *Google Maps* menyulitkan wisatawan dalam menentukan tujuan sesuai preferensinya. Selain itu, sebagian besar sistem rekomendasi belum mampu memberikan penjelasan mengenai alasan suatu destinasi direkomendasikan. Penelitian ini mengembangkan sistem rekomendasi pariwisata Madura menggunakan metode *Term Frequency–Inverse Document Frequency* (TF-IDF) dan *Cosine Similarity* dengan pendekatan Explainable Recommendation. Data penelitian diperoleh melalui web scraping *Google Maps* yang menghasilkan 16.215 ulasan dari 63 destinasi wisata yang dikelompokkan ke dalam 6 kategori, kemudian digabungkan menjadi 63 dokumen destinasi. Data diproses melalui tahapan *cleaning*, *case folding*, *normalization*, *tokenizing*, dan *stopword removal*. TF-IDF digunakan untuk pembobotan kata, sedangkan *Cosine Similarity* digunakan untuk menghitung tingkat kemiripan antara preferensi pengguna dan dokumen ulasan. Hasil penelitian menunjukkan bahwa sistem berhasil memberikan tiga rekomendasi destinasi wisata yang relevan berdasarkan preferensi pengguna dengan nilai *Cosine Similarity* tertinggi. Evaluasi menggunakan Precision pada enam skenario pengujian menghasilkan nilai rata-rata 94,4%, sedangkan pengujian *black box* menunjukkan seluruh fungsi sistem berjalan dengan baik. Selain itu, Explainable Recommendation memberikan penjelasan berdasarkan kesamaan kata sehingga hasil rekomendasi menjadi lebih transparan dan mudah dipahami.

Kata kunci: Sistem Rekomendasi, Pariwisata Madura, TF-IDF, *Cosine Similarity*, *Explainable Recommendation*.

ABSTRACT

Madura Island has diverse tourism potential; however, the large number of tourist destinations and the abundance of information available in Google Maps reviews make it difficult for tourists to select destinations that match their preferences. In addition, most existing recommendation systems are unable to provide explanations for why a particular destination is recommended. This study develops a tourism recommendation system for Madura Island using the Term Frequency–Inverse Document Frequency (TF-IDF) and Cosine Similarity methods with an Explainable Recommendation approach. The research data were collected through web scraping of Google Maps, resulting in 16,215 reviews from 63 tourist destinations classified into six categories, which were then merged into 63 destination documents. The data were processed through cleaning, case folding, normalization, tokenizing, and stopword removal. TF-IDF was employed to assign term weights, while Cosine Similarity was used to measure the similarity between user preferences and destination review documents. The results show that the system successfully provides the top three relevant tourist destination recommendations based on the highest Cosine Similarity scores. Evaluation using the Precision metric across six testing scenarios achieved an average score of 94.4%, while Black Box testing confirmed that all system functions operated correctly. Furthermore, the Explainable Recommendation feature provides explanations based on the matching keywords between user preferences and destination reviews, making the recommendation results more transparent and easier to understand.

Keywords: Recommendation System, Madura Tourism, TF-IDF, Cosine Similarity, Explainable Recommendation.