

ABSTRAK

Pariwisata merupakan sektor penting dalam meningkatkan perekonomian daerah, melestarikan budaya, dan menarik minat wisatawan. Pulau Madura memiliki beragam destinasi wisata yang tersebar di empat kabupaten, yaitu Bangkalan, Sampang, Pamekasan, dan Sumenep. Dan juga terdapat beberapa jenis wisata yang terdiri dari Wisata alam, Wisata Budaya, Wisata Bahari, dan Wisata Religi. Banyaknya pilihan wisata sering kali membuat wisatawan kesulitan menentukan destinasi yang sesuai dengan preferensi mereka. Penelitian ini bertujuan mengembangkan Rekomendasi Tempat Wisata di Pulau Madura menggunakan *Knowledge-Based Recommendation* dengan pendekatan *Case-Based Reasoning* dengan metode *Cosine Similarity*. Sistem ini memberikan rekomendasi berdasarkan atribut seperti fasilitas, biaya, jarak, rating, serta jumlah wisatawan nusantara dan mancanegara. Data penelitian diperoleh dari agen travel dengan total 94 data destinasi wisata di Pulau Madura. Sistem dikembangkan menggunakan *Python*, *SQLite*, dan antarmuka *Streamlit*. Metode *Knowledge-Based* digunakan untuk mencocokkan preferensi pengguna terhadap atribut wisata, sedangkan *Cosine Similarity* digunakan untuk menghitung kemiripan deskripsi destinasi. Hasil pengujian menunjukkan bahwa metode *Knowledge-Based Recommendation* menghasilkan tingkat kecocokan 0,630, sedangkan kombinasi dengan *Cosine Similarity* meningkatkan nilai kecocokan hingga 0,902. Hal ini membuktikan bahwa integrasi kedua metode mampu memberikan rekomendasi yang lebih akurat, relevan, dan sesuai dengan preferensi pengguna.

Kata kunci: Sistem Rekomendasi, *Knowledge-Based Recommendation*, *Case-Based Reasoning*, *Cosine Similarity*, Wisata Madura

ABSTRACT

Tourism is an important sector in improving the regional economy, preserving culture, and attracting tourists. Madura Island has a variety of tourist destinations spread across four districts, namely Bangkalan, Sampang, Pamekasan, and Sumenep. And there are also several types of tourism consisting of Nature Tourism, Cultural Tourism, Marine Tourism, and Religious Tourism. The many tourism options often make it difficult for tourists to determine the destination that suits their preferences. This study aims to develop Tourist Destination Recommendations on Madura Island using Knowledge-Based Recommendation with a Case-Based Reasoning approach with the Cosine Similarity method. This system provides recommendations based on attributes such as facilities, costs, distance, ratings, and the number of domestic and international tourists. The research data was obtained from travel agents with a total of 94 tourist destination data on Madura Island. The system was developed using Python, SQLite, and the Streamlit interface. The Knowledge-Based method is used to match user preferences to tourist attributes, while Cosine Similarity is used to calculate the similarity of destination descriptions. Test results show that the Knowledge-Based Recommendation method yielded a match rating of 0.630, while the combination with Cosine Similarity increased the match rating to 0.902. This demonstrates that the integration of the two methods is capable of providing more accurate, relevant, and user-preferred recommendations.

Keywords: *Recommendation System, Knowledge-Based Recommendation, Case-Based Reasoning, Cosine Similarity, Madura Tourism*