

## ABSTRAK

Penelitian ini bertujuan untuk mengembangkan sistem rekomendasi anime dengan pendekatan hybrid yang menggabungkan metode *content-based filtering* dan *collaborative filtering* untuk menghasilkan rekomendasi yang optimal dan relevan. Dataset yang digunakan diperoleh dari situs Kaggle. Proses pengembangan sistem melibatkan preprocessing data seperti modifikasi tabel, case folding, cleansing, tokenization, stopwords removal, dan stemming. Dalam metode hybrid yang diusulkan, *content-based filtering* menggunakan algoritma *TF-IDF* dan *cosine similarity* untuk menganalisis kesamaan antar item, sementara *collaborative filtering* memanfaatkan algoritma *K-Nearest Neighbor (KNN)* untuk menghitung kesamaan antar pengguna berdasarkan rating. Hasil pengujian menunjukkan bahwa sistem rekomendasi dengan pendekatan *hybrid* berhasil mengatasi masalah *cold start* dan *overspecialization* yang sering terjadi pada metode *content-based* dan *collaborative filtering* secara terpisah. Evaluasi kinerja sistem menggunakan metrik *Mean Absolute Error (MAE)* menunjukkan nilai terendah pada model *hybrid* dengan *MAE* sebesar 0.417. Selain itu, metrik *intra-list similarity (ILS)* digunakan untuk mengukur diversitas rekomendasi, yang menunjukkan bahwa metode *hybrid* memberikan variasi rekomendasi yang lebih baik dibandingkan metode *content-based filtering*. Penelitian ini memberikan kontribusi signifikan dalam pengembangan sistem rekomendasi yang lebih adaptif dan optimal, terutama dalam konteks anime, dengan memanfaatkan kekuatan dari kedua metode rekomendasi dan mengurangi kelemahan yang ada.

**Kata Kunci:** sistem rekomendasi, *hybrid filtering*, *content-based filtering*, *collaborative filtering*, anime.

## ABSTRACT

*The research aims to develop an anime recommendation system with a hybrid approach that combines content-based filtering and collaborative filtering methods to produce optimal and relevant recommendations. The system development process involves preprocessing data such as table modification, case folding, cleansing, tokenization, stopwords removal, and stemming. In the proposed hybrid method, content-based filtering uses the TF-IDF and cosine similarity algorithms to analyze similarities between items, while collaborative filtering utilizes the K-Nearest Neighbor (KNN) algorithm to calculate similarities among users based on ratings. The test results showed that a system of recommendations with a hybrid approach managed to address the problems of cold start and overspecialization that often occur in content-based and collaborative filtering methods separately. System performance evaluation using the Mean Absolute Error (MAE) metrics showed the lowest value on a hybrid model with a MAE of 0.417. In addition, the intra-list similarity metric (ILS) is used to measure the diversity of recommendations, which indicates that the hybrid method provides better variation of the recommendations than content-based filtering method. This research has made a significant contribution to the development of a more adaptive and optimal recommendation system, especially in the anime context, by leveraging the strengths of both recommendation methods and reducing existing weaknesses.*

*Keywords: recommendation systems, hybrid filtering, content-based filtering and collaborative filtering.*