

ABSTRAK

Perkembangan industri anime yang pesat mengakibatkan terjadinya *information overload*, yaitu kondisi di mana pengguna kesulitan menemukan anime yang sesuai dengan preferensi mereka dari ribuan judul yang tersedia. Penelitian ini bertujuan untuk mengimplementasikan *Hybrid Method* yang menggabungkan *Item-Based Collaborative Filtering* dan *Content-Based Filtering* dengan *One-Hot Encoding* pada sistem rekomendasi anime, serta menghasilkan website yang dapat digunakan oleh pengguna untuk mendapatkan rekomendasi anime yang relevan.

Penelitian ini menggunakan metode *Research and Development (R&D)* dengan dataset MyAnimeList 2020 yang terdiri dari 17.562 data anime dan 57.633.243 data rating dari 325.772 pengguna. *Item-Based Collaborative Filtering* menghitung kemiripan antar anime berdasarkan pola rating pengguna menggunakan *Cosine Similarity*, sedangkan *Content-Based Filtering* merepresentasikan genre anime sebagai vektor biner menggunakan *One-Hot Encoding* kemudian menghitung kemiripannya dengan *Cosine Similarity*. Hasil kedua metode digabungkan menggunakan *weighted combination* dengan bobot 70% untuk *Collaborative Filtering* dan 30% untuk *Content-Based Filtering*. Website dikembangkan menggunakan framework *Laravel 11*, database *MySQL*, dan *Tailwind CSS*.

Hasil penelitian menunjukkan sistem berhasil memberikan 10 rekomendasi anime dengan menampilkan *Hybrid Score*, CF Score, dan CBF Score untuk setiap hasil rekomendasi. Evaluasi usability menggunakan *System Usability Scale (SUS)* dilakukan terhadap 26 responden berusia 17–31 tahun ke atas yang pernah menonton anime. Sistem rekomendasi anime berbasis *Hybrid Method* terbukti dapat mengatasi kelemahan dari masing-masing metode tunggal, di mana *Collaborative Filtering* menangkap preferensi pengguna dari pola rating dan *Content-Based Filtering* memastikan relevansi konten berdasarkan kemiripan genre.

Kata kunci: sistem rekomendasi, collaborative filtering, content-based filtering, one-hot encoding, hybrid method

ABSTRACT

The rapid growth of the anime industry has resulted in information overload, a condition where users struggle to find anime that matches their preferences from thousands of available titles. This study aims to implement a Hybrid Method combining Item-Based Collaborative Filtering and Content-Based Filtering with One-Hot Encoding in an anime recommendation system, and to produce a website that allows users to obtain relevant anime recommendations.

This study uses the Research and Development (R&D) method with the MyAnimeList 2020 dataset consisting of 17,562 anime records and 57,633,243 rating data from 325,772 users. Item-Based Collaborative Filtering calculates similarity between anime based on user rating patterns using Cosine Similarity, while Content-Based Filtering represents anime genres as binary vectors using One-Hot Encoding and calculates their similarity using Cosine Similarity. The results of both methods are combined using a weighted combination with a weight of 70% for Collaborative Filtering and 30% for Content-Based Filtering. The website was developed using the Laravel 11 framework, MySQL database, and Tailwind CSS.

The results show that the system successfully provides 10 anime recommendations displaying the Hybrid Score, CF Score, and CBF Score for each recommendation. Usability evaluation using the System Usability Scale (SUS) was conducted on 26 respondents aged 17–31 years above who had experience watching anime. The Hybrid Method-based anime recommendation system was proven to overcome the weaknesses of each single method, where Collaborative Filtering captures user preferences from rating patterns and Content-Based Filtering ensures content relevance based on genre similarity.

Keywords: recommendation system, collaborative filtering, content-based filtering, one-hot encoding, hybrid method.