ABSTRAK

Industri perfilman telah mengalami perkembangan pesat, terutama dengan meningkatnya popularitas layanan streaming yang memberikan akses beragam terhadap film dan serial (Ryana Agustian & Prasetyo Nugroho, 2020; Umar et al., 2020). Meskipun layanan ini menawarkan banyak pilihan, pengguna sering kali kesulitan menemukan film yang ingin ditonton (Hadi et al., 2020). Metode rekomendasi yang umum digunakan, yaitu *item-based* dan *user-based,* masing-masing memiliki kelemahan. *Item-based* seringkali kurang akurat dalam menghasilkan rekomendasi karena hanya mempertimbangkan kesamaan antara item, sementara *user-based* menghadapi tantangan terkait keterbatasan informasi untuk pengguna baru.

Metodologi yang diterapkan dalam penelitian ini melibatkan penggabungan KNN item-based dan KNN user-based untuk meningkatkan akurasi sistem rekomendasi film. Pengujian dilakukan dengan menghitung Mean Absolute Error (MAE) untuk berbagai parameter K (3, 5, 9, 15, 23, 33, 45), memanfaatkan kelebihan dari kedua pendekatan untuk menghasilkan rekomendasi yang lebih relevan.

Hasil penelitian menunjukkan bahwa pendekatan hybrid yang menggabungkan metode KNN item-based dan KNN user-based mampu meningkatkan akurasi sistem rekomendasi. Pada nilai K sebesar 45, MAE untuk KNN item-based tercatat sebesar 0.796, KNN user-based sebesar 0.757, dan pendekatan hybrid sebesar 0.731. Temuan ini menunjukkan bahwa penggabungan metode tersebut efektif dalam mengatasi kelemahan masing-masing metode dan memberikan rekomendasi yang lebih baik kepada pengguna.

Kata Kunci: Sistem Rekomendasi Film. KNN, KNN *Item Based,* KNN *User Based.*

ABSTRACT

The film industry has experienced rapid development, especially with the rising popularity of streaming services that provide diverse access to movies and series (Ryana Agustian & Prasetyo Nugroho, 2020; Umar et al., 2020). Although these services offer a wide range of choices, users often struggle to find movies they want to watch (Hadi et al., 2020). Commonly used recommendation methods, namely item-based and user-based, each have their own drawbacks. Item-based methods often lack accuracy in generating recommendations because they only consider similarities between items, while user-based methods face challenges related to limited information for new users.

The methodology applied in this study involves combining item-based KNN and user-based KNN to improve the accuracy of movie recommendation systems. Testing was conducted by calculating the Mean Absolute Error (MAE) for various K parameters (3, 5, 9, 15, 23, 33, 45), leveraging the strengths of both approaches to produce more relevant recommendations.

The results of the study indicate that the hybrid approach, which combines item-based KNN and user-based KNN methods, effectively improves the accuracy of the recommendation system. At a K value of 45, the MAE for item-based KNN was recorded at 0.796, user-based KNN at 0.757, and the hybrid approach at 0.731. These findings demonstrate that the combination of these methods is effective in addressing their individual weaknesses and providing better recommendations to users.

Keywords: *Movie Recommendation System, KNN, KNN Item-Based, KNN User-Based*