

## ABSTRACT

Recommendation systems have become a topic of interest in the fields of artificial intelligence and data analysis. In the current era, the movie industry is experiencing rapid development in the entertainment world and is in demand by people who are interested in watching movies. However, the variety of movie genres and titles is a challenge for users in choosing a movie that suits each user's preferences. Therefore, a recommendation system is needed that can provide movie recommendations based on user interests and tastes. In this research, the author implements the content-based filtering method using the TF-IDF (Term Frequency - Inverse Document Frequency) algorithm and cosine similarity using the Python library, Gensim, to extract keywords from movie synopsis. The dataset used comes from publicly available data (MovieLens). The author compares recommendation models based on genre, keywords, and a combination of both. And to measure the performance of the recommendation system, the author uses the calculation of precision, recall, and f1-score metrics. The experimental results show that movie recommendation systems have limitations in providing accurate and relevant recommendations to users. This research shows that the content-based filtering method with TF-IDF and cosine similarity algorithms that integrates keyword extraction using the Gensim library, is less effective in producing relevant movie recommendations.

**Keywords:** recommender system; keyword extraction; content-based filtering; TF-IDF; cosine similarity