



## Movie Recommendation System Based on Tweets Using Switching Hybrid Filtering with Recurrent Neural Network

Berlian Muhammad Galin Al Awienoor <sup>1</sup>      Erwin Budi Setiawan <sup>1\*</sup>

*Informatics, School of Computing, Telkom University, Bandung, Indonesia*

\* Corresponding author's Email: [erwinbudisetiawan@telkomuniversity.ac.id](mailto:erwinbudisetiawan@telkomuniversity.ac.id)

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**Abstract:** In the current phase of technological development, Netflix has become a popular platform for entertainment. Often people feel overwhelmed when choosing a movie because of the variety of genres. To overcome this problem, a Recommendation System is needed that can help people find the best movie according to their preferences. In addition, Twitter was used to collect tweets related to movies, which were then processed into rating values. The crawled dataset consisted of 855 movies and 44 user reviews (including data from IMDB, Rotten Tomatoes, and Metacritic websites), for a total of 23,130 records. This research proposed to use the Switching Hybrid Filtering (SHF) method combined with Recurrent Neural Network (RNN) as classification. In SHF, the emphasis on rating prediction was initiated by the Content Based Filtering method with RoBERTa, followed by switching to Item-Based Collaborative Filtering. This situation arose because the dataset had a sparseness of 74.46%. SHF provided accurate rating prediction with an MAE of 0.0617 and an RMSE of 0.1178. Nadam optimization with optimal learning rate in RNN classification gave the best results with an accuracy of 86.11%. The research successfully developed a method that proved effective and provided positive results, contributing to the development of a recommendation system designed to assist users in choosing movies based on their preferences.

**Keywords:** Recommender System, Switching Hybrid Filtering, Collaborative Filtering, Content-Based Filtering, Recurrent Neural Network

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