

ABSTRAK

Perkembangan platform musik digital menyebabkan jumlah lagu yang tersedia semakin meningkat sehingga pengguna kesulitan menemukan lagu yang sesuai dengan preferensinya. Untuk mengatasi permasalahan tersebut, digunakan sistem rekomendasi musik. Salah satu metode yang banyak digunakan adalah *Item-Based Collaborative Filtering* karena mampu menghasilkan rekomendasi berdasarkan tingkat kemiripan antar lagu. Namun, metode ini cenderung menghasilkan rekomendasi yang berfokus pada lagu-lagu populer sehingga aspek *novelty* menjadi rendah. Penelitian ini bertujuan untuk menerapkan metode *Self-Information Novelty* (SIN) pada sistem rekomendasi musik melalui proses *re-ranking* terhadap hasil rekomendasi *Item-Based Collaborative Filtering*. Nilai *similarity* dihitung menggunakan *cosine similarity*, sedangkan *novelty* dihitung berdasarkan tingkat popularitas lagu. Kedua nilai tersebut digabungkan menggunakan parameter *alpha* untuk menghasilkan skor akhir rekomendasi. Hasil pengujian menunjukkan bahwa penerapan *novelty* melalui proses *re-ranking* mampu mengubah urutan rekomendasi. Pada nilai *alpha* 0,7, lagu Czarnuch naik dari posisi ke-12 menjadi posisi pertama dengan nilai *novelty* sebesar 0,923 dan nilai akhir 0,691. Selain itu, semakin besar nilai *alpha* yang digunakan, semakin besar pengaruh *novelty* terhadap urutan rekomendasi yang dihasilkan. Hasil penelitian menunjukkan bahwa penerapan *Self-Information Novelty* melalui proses *re-ranking* dapat menghasilkan rekomendasi yang lebih beragam.

Kata Kunci: Sistem Rekomendasi Musik, *Item-Based Collaborative Filtering*, *Self-Information Novelty*, *Re-ranking*, *Cosine Similarity*.

ABSTRACT

The growth of digital music platforms has led to a significant increase in the number of available songs, making it more difficult for users to find music that matches their preferences. To address this issue, music recommendation systems are widely used. One of the most commonly applied methods is Item-Based Collaborative Filtering, which generates recommendations based on the similarity between songs. However, this method tends to recommend popular songs, resulting in lower novelty in the recommendation list. This study aims to apply the Self-Information Novelty (SIN) method to a music recommendation system through a re-ranking process on the results generated by Item-Based Collaborative Filtering. Similarity values are calculated using cosine similarity, while novelty values are determined based on song popularity. These two values are then combined using an alpha parameter to produce the final recommendation score. The results show that incorporating novelty through the re-ranking process can change the order of recommendations. At an alpha value of 0.7, the song Czarnuch moved from 12th position to the top rank with a novelty value of 0.923 and a final score of 0.691. Furthermore, the results indicate that higher alpha values increase the influence of novelty on the recommendation ranking. The study demonstrates that applying Self-Information Novelty through re-ranking can produce more diverse music recommendations.

Keywords: Music Recommendation System, Item-Based Collaborative Filtering, Self-Information Novelty, Re-ranking, Cosine Similarity.

