ABSTRAK

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Judul	:	*Association Analysis with Frequent Pattern Growth and Genetic Algorithm for Recommendation System*

Sistem rekomendasi adalah suatu sistem yang berfungsi membantu *user* dalam pengambilan keputusan dengan cara memberi rekomendasi. Terdapat beberapa masalah yang belum terselesaikan pada pendekatan terdahulu terkait sistem rekomendasi. Masalah tersebut antara lain struktur model sistem rekomendasi yang kompleks sehingga susah diinterpretasi serta inefisiensi dalam pembangunan model tersebut. Oleh karena itu, penulis mengajukan model sistem rekomendasi yang sederhana dan efisien, namun tetap mampu menangani data dalam jumlah besar dibandingkan dengan algoritma pembelajaran mesin lain. Model sistem rekomendasi yang diajukan adalah model rekomendasi, yang kemudian disebut aturan rekomendasi. Aturan rekomendasi didapatkan dengan menggunakan *Frequent Pattern Growth*. *Genetic Algorithm* selanjutnya digunakan untuk mengoptimasi performa kumpulan aturan rekomendasi dengan cara mempertahankan / memilih aturan rekomendasi yang paling sesuai dan memfilter aturan rekomendasi yang kurang sesuai. Hasil evaluasi menunjukkan bahwa kumpulan aturan rekomendasi yang lebih baik didapatkan setelah melalui tahap optimasi dengan nilai rata-rata *Kulczynski* yaitu 0.89 (generasi 100), 0.94 (generasi 500), dan 0.92 (generasi 1000). Di samping itu, sebaran aturan rekomendasi semakin bervariasi dengan nilai standar deviasi *Kulczynski* yaitu 0.45 (generasi 100), 0.47 (generasi 500), dan 0.46 (generasi 1000).

Kata kunci*:* Sistem Rekomendasi, Analisis Asosiasi, *Frequent Pattern Growth, Genetic Algorithm.*

ABSTRACT

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Title	:	*Association Analysis with Frequent Pattern Growth and Genetic Algorithm for Recommendation System*

A recommendation system is a system that functions to assist users in making decisions by providing recommendations. There are several unresolved problems in the previous approach regarding the recommendation system. These problems include the structure of the recommendation system model which is complex so that it is difficult to interpret and the inefficiency in building the model. Therefore, the authors propose a recommendation system model that is simple and efficient, but still capable of handling large amounts of data compared to other machine learning algorithms. The recommendation system model proposed is the recommendation model, which is then called the recommendation rule. Recommendation rules are obtained by using Frequent Pattern Growth. Genetic Algorithm is then used to optimize the performance of the recommendation rule set by maintaining / selecting the most suitable recommendation rule and filtering the less suitable recommendation rule. The evaluation results show that a better set of recommendation rules is obtained after going through the optimization stage with Kulczynski's average values of 0.89 (generation 100), 0.94 (generation 500), and 0.92 (generation 1000). In addition, the distribution of recommendation rules is increasingly varied with Kulczynski's standard deviation values of 0.45 (generation 100), 0.47 (generation 500), and 0.46 (generation 1000).

***Keywords**: Recommendation System, Association Analysis, Frequent Pattern Growth, Genetic Algorithm.*