Abstract

This paper presents a Genetic algorithm based association rule mining in which multi fitness functions are used. Genetic algorithm is used for performing global search. This proposed algorithm generates intersecting association rules from dataset. A fitness function with parameter support is defined for generating frequent itemsets and then other parameters like confidence, lift, leverage etc are used for defining second fitness function for generating association rules. The proposed algorithm is compared with classical Apriori algorithm and also with existing Genetic algorithm for association rule mining on the basis of metrics Support Count, Confidence count, and rule accuracy. Comparisons are also made on different generations.

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**Index Terms**

Computer Science  
Artificial Intelligence

**Keywords**

Multi-Fitness Function Genetic algorithm (MFGA)  
Apriori algorithm  
Genetic Algorithm  
Crossover Probability  
Fitness function  
Support  
Confidence  
Lift  
Leverage  
Coverage.