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.

References

- Manish Saggar, Ashish Kumar Agrawal, Abhimanyu Lad, "Optimization of Association Rule Mining using Improved Genetic Algorithms"; IEEE International
Analysis of MFGA to Extract Interesting Rules

- Rahul Malhotra, Narinder Singh, Yaduvir Singh, Genetic Algorithms: Concepts,
- D. Kerana Hanirex, Dr. A. Kumaravel; An Efficient Partition and Two Dimensional Approach For Mining Frequent Itemsets; International Journal of Technological Synthesis and Analysis, Vol. 1 Issue 1, pp. 14-17, December 2012.
- R. Uday kiran, P Krishna Reddy; An Improved Multiple Minimum Support Based Approach to Mine Rare Association Rules; IEEE Symposium on Computational Intelligence and Data Mining, 2009.
- Wanjun Yu, Xiaochun Wang, Fangyi Wang, Erkang Wang, Bowen Chen; The Research Of Improved Apriori Algorithm for Mining Association Rules; IEEE International
Conference on Communication Technology Proceeding, China, pp. 513-516, 2008.

**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.