Abstract

Abstract - Mining of frequent itemset plays important role in data mining applications. The algorithms which are used to generate the frequent patterns must perform efficiently. Because the overall performance of association rule mining based on fast discovery of frequent pattern. Many MFI approaches need to recursively construct many candidates, they also suffer the problem of a large search space, so that the performances for the approaches degrade when the database is massive or the threshold for mining frequent patterns is low. In this paper, an efficient method for discovering the maximal frequent itemsets is proposed which combines a vertical tidset representation of the database with effective pruning mechanisms for search space reduction. It works efficiently when the number of itemsets and tidsets are more. The proposed approach has been compared with GenMax algorithm for mushroom dataset and the results show that the proposed algorithm generates less number of candidate itemsets from which MFIs are obtained. Hence, the proposed algorithm performs effectively and generates maximal frequent patterns faster.
A Search Space Reduction Algorithm for Mining Maximal Frequent Itemsets

- Burdick, D., M. Calimlim and J. Gehrke, "MAFIA: A maximal frequent itemset algorithm for transactional databases", In International Conference on Data Engineering, pp. 443 – 452, April 2001, doi = 10.1.1.100.6805
- K. Gouda and M. J. Zaki, "Efficiently Mining Maximal Frequent Itemsets", in Proc. of the IEEE
- Don-Lin Yang, Ching-Ting Pan and Yeh-Ching Chung An Efficient Hash-Based Method for Discovering the Maximal Frequent Set
- Jiawei Han, Hong Cheng, Dong Xin, Xifeng Yan, "Frequent pattern mining: current status and future Directions", http://www. cs. ucsb. edu/~xyan/papers/dmkd07_frequentpattern.pdf

Index Terms

Computer Science
Algorithms

Keywords
Search space Reduction
Maximal Frequent Itemsets