Abstract

Among the many mining algorithms of associations rules, Apriori Algorithm is a classical algorithm that has caused the most discussions; it can effectively carry out the mining association rules. With large database, the process of mining association rules is time consuming. The efficiency becomes crucial factor. Moreover, Apriori algorithm is improved by reducing the number of scanning data base. The proposed algorithm reduces the storage room, improves the competency of performance with negligible error of the algorithm. Finally, the improved Apriori algorithm can solve the problem of traditional Apriori algorithm. After analyzing the Apriori algorithm, this algorithm is incapable due to it scans the database several times. Based on the planning of getting to database once, a new recoverd algorithm formed on the Apriori is put forward in this paper. Experiments show that it can mostly adds computation competency, i. e. minimize the calculating time and space. This algorithm has been broadly used for Grocery rooms in customer consumer knowledge mining.
- Piatetsky Shapiro and G Discovery analysis and presentation of strong rules ; in G Piatetsky-Shapiro & W J Frawley; eds; Knowledge Discovery in Databases; AAAI/MIT Press; Cambridge; MA; 1991.
  - Agrawal R and Imielinski T and Swami A N Mining association rules between sets of items in large databases; In Proceedings ACM SIGMOD International Conference on Management of Data Vol 22; No 2; of SIGMOD Record; Washington; pp 207–216; 1993.
- R. Agrawal; T. Imielinski; and A Swami; Mining association rules between sets of items in large databases; In Proc. of the ACM SIGMOD Conference on Management of data; Washington; D C; pp 207-216; May 1993.
- Agrawal R ; Srikant R ; Fast algorithms for mining association rules [A]; In; Proceedings of the 20th International Conference on Very Large Databases[C]; Santiago ; Chile ; 1994 487-499.
- Agrawal R; Srikant R; Fast algorithms for mining association rules ; In Proceedings 20th International Conference on Very Large Data Bases (VLDB'94); pp 487-499; 1994.
- Agrawal R and Srikant R and Mining sequential patterns In Proceeding of the 11th International Conference on Data Engineering ; Taipei ; Taiwan; pp 3 -14; 1995.
- Agrawal R et al Fast Discovery of Association Rules [M]; In; Advances in Knowledge Discovery and Data Mining; Menlo Park Calif; AAAI/MIT Press; 1996 307-328.
- Srikant R ; Agrawal R ; Mining quantitative association rules in large relational tables ; In Proceeding of Association for Computing Machinery- Special Interest Group on Management of Data (ACM SIGMOD) ;pp 1-12;1996.
- Fayyad U. M; Piatetsky-Shapiro G; Piatetsky-Shapiro P X ; From data mining to knowledge discovery; an Overview Advances in Knowledge Discovery and Data Mining AAAI Press/MIT Press pp 1-36 1996.
- Fayyad U. M; Piatetsky Shapiro G; Smyth; P; From data mining to knowledge discovery in databases AI Magazine Vol 17; No 3; pp 37 54 ; 1996.
- Zaki; M. J; Parthasarathy; S; Oghihara; M; Li; W; New algorithms for fast discovery of association rules ; In 3rd Intl; Conf; on Knowledge Discovery and Data Mining 1997.
- Brin S; Motwani R and Silverstein C and Beyond market baskets and Generalizing association rules to correlations; Data Mining and Knowledge Discovery Journal; Vol 2; pp 39-68; 1998.
- Herbert A Edelstein; Introduction to Data Mining and Knowledge Discovery; 3rd Edition; pp 22-26; Oct 1999.
- Han J ; Pei J ; Yin Y; Mining frequent patterns without candidate generations; In Proceeding of the ACM SIGMOD; pp 1–12; 2000.
- Han J; Jian P; Yiwen Y Mining frequent patterns without candidate generation[C]; In; Proceedings of the 2000 ACM SIGMOD International Conference Management of Data 2000;
- Jiawei Han ; Micheline Kamber. Data mining; concepts and techniques[M; 2001.
- Lin Lu; Pei-qi Liu "Study On An Improved Apriori Algorithm And Its Application In Supermarket" Xi'an 710055; China 2001.
Study on Apriori Algorithm and its Application in Grocery Store

- Tan P. -N; Steinbach M; Kumar V; Introduction to data mining ; Addison Wesley; 2006.

- Han J; Kamber M; Data mining concepts and techniques; Elsevier Inc; Second Edition; San Francisco; 2006.

- Cheng J; Ke Y; Ng W; Effective elimination of redundant association rules; Data Mining and Knowledge Discovery Journal; Vol 16; pp 221–249; 2008.

- Tian Lan, Run tong Zhang and Hong Dai; A New Frame of Knowledge Discovery; in Proc 1st International Workshop on Knowledge Discovery and Data Mining; WKDD 2008; pp 607 – 611; Jan 2008.

- Bo Wu; Defu Zhang; Qihua Lan; Jiemin Zheng &quot;An Efficient Frequent Patterns Mining Algorithm based on Apriori Algorithm and the FP-tree Structure&quot; Xiamen 361005, China 2008.

- Liu Jing; Lu Yongquan; Wang Jintao; Gao Pengdong; Qiu Chu; Ji Haipeng; Li Nan; Yu Wenhua &quot;An Improved Apriori Algorithm for Early Warning of Equipment Failure&quot; Beijing, China 2009 IEEE.


- Shilpa; Sunita Parashar &quot;Performance Analysis of Apriori Algorithm with Progressive Approach for Mining Data&quot; October 2011.

- Sanjeev Rao and Priyanka Gupta and Implementing Improved Algorithm Over APRIORI Data Mining Association Rule Algorithm&quot; 2012.

Index Terms

Computer Science

Algorithms

Keywords