The Study on Least Association Rule Set and its Mining

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Abstract

Mining association rule is a hot topic and essential of data mining. In the paper, we replaced the complete association rule set with the least association rule set in the process of association rule mining. The least association rule set should at least comply with two requirements including: (1) it should be the minimal and the simplest association rule set and (2) it's predictive power should in no way be weaker than that of the complete association rule set so that the preciseness of the association rule set analysis can be guaranteed. By adopting the least association rule set, the pruning of weak rules can be effectively carried out so as to greatly reduce the number of frequency itemset, and therefore the mining efficiency can be improved. Moreover, corresponding efficient algorithms are developed based on the classical Apriori algorithm.

Keywords: Data Mining, Association Rule Mining, the Complete Association Rule Set, the Least Association Rule Set.