Abstract

Conventional Frequent pattern mining discovers patterns in transaction databases based only on the relative frequency of occurrence of items without considering their utility. Rare objects are often of great interest and great value. Until recently, rarity has not received much attention in the context of data mining. For many real world applications, however, utility of rare itemsets based on cost, profit or revenue is of importance.

Most research done on Association Rule Mining (ARM) is concentrated on mining frequent itemsets from crisp data. Unfortunately, in most real-life applications, use of discrete valued utilities alone is inadequate. In many cases where values are uncertain, a fuzzy representation may be more appropriate. An interesting extension to association rules is to include temporal dimension. The traditional association rule mining ignores the time characters of things, however, the application areas are always changing with time. Discovering temporal intervals as well as the association rules that hold during the time intervals may lead to useful information. Now, as increasingly complex real-world problems are addressed, temporal rare itemset utility problem, are taking center stage. Temporal Itemset Utility Mining with fuzzy approach allows item utility values to be dynamic over time and assumes fuzzy values. In this paper, we have presented a theoretical approach to Temporal Rare Itemset Utility Mining.
Reference


A Conceptual Approach to Temporal Rare Item set Utility Mining


Index Terms

Computer Science                  Data Mining

Key words

Association Rule Mining                  Utility

Temporal

Frequent Pattern Mining

Temporal Rare Itemset