A Combined Approach for Mining Fuzzy Frequent Itemset

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Abstract

Frequent Itemset Mining is an important approach for Market Basket Analysis. Earlier, the frequent itemsets are determined based on the customer transactions of binary data. Recently, fuzzy data are used to determine the frequent itemsets because it provides the nature of frequent itemset ie. , it describes whether the frequent itemset consists of only highly purchased items or medium purchased items or less purchased items or combination of all these based on the fuzzy partitions correspond to quantity purchased. This paper concentrates on fuzzy frequent itemset mining in multi-dimensional aspect by combining previously used approaches. This proposed approach initially creates fuzzy partitions for numerical attributes and selects the fuzzy partitions to construct the fuzzy records and create the cluster-based fuzzy set table. Then, it uses cluster-based fuzzy set table, finds the fuzzy frequent itemset and reduces the size of the cluster-based fuzzy set table iteratively. Finally, it concludes with
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the large fuzzy frequent itemset. This paper also compares the proposed approach with the fuzzy Apriori approach and suggests the proposed approach is better than existing fuzzy Apriori approach.

References

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**Index Terms**

Computer Science               Data Mining

**Keywords**

Fuzzy Set   Fcm   Cluster-based Fuzzy Set Table   Fuzzy Frequent Itemset