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An Enhanced MEIT Approach for Itemset Mining Using Levelwise Pruning

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Abstract : Association rule mining forms the core of data mining and it is termed as one of the well-known methodologies of data mining. Objectives of mining is to find interesting correlations, frequent patterns, associations or casual structures among sets of items in the transaction databases or other data repositories. Hence, association rule mining is imperative to mine patterns and then generate rules from these obtained patterns. For efficient targeted query processing, finding frequent patterns and itemset mining, there is an efficient way to generate an itemset tree structure named Memory Efficient Itemset Tree. Memory efficient IT is efficient for storing itemsets, but takes more time as compare to traditional IT. The proposed strategy generates maximal frequent itemsets from memory efficient itemset tree by using levelwise pruning. For that firstly pre-pruning of items based on minimum support count is carried out followed by itemset tree reconstruction. By having maximal frequent itemsets, less number of patterns are generated as well as tree size is also reduced as compared to MEIT. Therefore, an enhanced approach of memory efficient IT proposed here, helps to optimize main memory overhead as well as reduce processing time.

Keywords : association rule mining, itemset mining, itemset tree, meit, maximal frequent pattern
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