Abstract

The data storing and retrieving are playing a major role in the data clustering and data warehousing techniques. The effectiveness of a data retrieving method depends upon the data specific queries for retrieving the data from the database. Iceberg query is a unique class of aggregation query, which computes aggregate values above a given threshold. Many data mining queries are basically iceberg queries. The major part taken into the consideration about the AND operation in the iceberg queries. The reduced number of AND operation increases the effectiveness of the iceberg query. In this work, an efficient iceberg query evaluation process is proposed by reducing the bitwise AND operations needed to find the item pairs. In the proposed approach two solutions are introduced to reduce the bitwise AND operations. Randomly identifying 1-bit positions instead of first 1-bit position and reducing the zero bit values from the Most Significant Side so that the bit map vector will be reduced in such a way, the bitwise operations needed is reduced. The experimentation is conducted on two datasets in order to evaluate the performance of the proposed iceberg query evaluation algorithm. In the case of retail datasets, the time required for processing 100000 tuples is 864 milliseconds. On the other hand, the same for synthetic dataset, T10l4D100K, is 910 milliseconds.
References

- Frequent Item set Mining Dataset Repository http://fimi. ua. ac. be/data/

Index Terms
Keywords
Database  iceberg query  bitwise-AND operation  dynamic pruning  bitmap table