Abstract

We propose an efficient technique for mining frequent itemsets in large databases making use of Optical Neural Network Model. It eliminates the need to generate candidate sets and joining them for finding frequent itemsets for association rule mining. Since optical neural network performs many computations simultaneously, the time complexity is very low as compared to other data mining techniques. The data is stored in such a way that it minimizes space complexity to a large extent. This paper focuses on how this model can be helpful in generating frequent patterns for various applications. Appropriate methods are also designed that reduces the number of database scans to just one. It is fast, versatile, and adaptive. It discovers frequent patterns by using the best features of data mining, optics and neural networks.
Reference

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Key words

Optical Neural Network, ,
Weight matrix
Electro-optical Vector multiplier