

# Research on the Application of Computer Data Mining Technology in the Era of Big Data

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**Keywords:** computer data mining technology; the era of big data; function

**Abstract:** With the wide application of computer technology, the position of computer technology in various fields is gradually higher. Accordingly, the amount of data generated by people's activities on the Internet is also increasing. With the continuous progress of information technology, the data that originally belonged to chicken ribs in people's eyes has more value. At this time, the era of big data is coming. Firstly, this paper analyzes the main methods and advantages of data mining. Then, this paper analyzes the function of data mining technology. Finally, the main application of data mining technology is proposed.

## 1. Introduction

The mining technology of big data is a new transaction, and the time starting point of big data can be redefined in 2011. Data mining is a new technology, which will effectively collect statistics, database technology and KDD Technology. According to the goal set by the enterprise, we can classify all kinds of internal potential information by data mining technology. In the actual mining, we should improve the efficiency of large amount of data acquisition, which will effectively extract the relationship between the data. In the process of data mining, we are very easy to lose important data, which will result in incomplete and untrue data. In this day and age, all data is useful. Therefore, the data mining technology came into being. Through mining technology, all kinds of data will be applied to all aspects. There are many methods of data mining technology, mainly as shown in Figure 1.

## 2. Advantages of Data Mining

Data mining technology has many advantages, as shown in Figure 2.

### 2.1 Overall

Data mining includes a series of processes such as data screening, data analysis, data modeling, conclusion, analysis conclusion and evaluation conclusion. Therefore, data mining technology is not a single link, which is global and complete. Data mining technology is a complete and deep exploration of data.

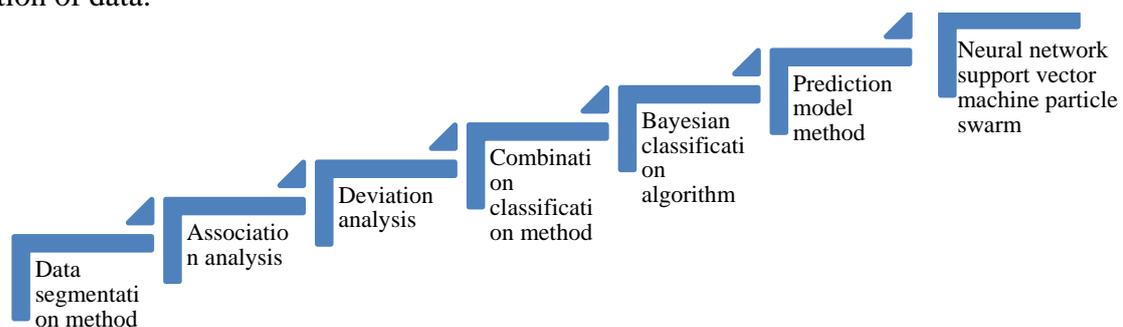


Figure 1: Overview of main methods of data mining

## 2.2 Diversity

Data mining technology includes integrated clustering analysis, association analysis, feature analysis and so on. Therefore, we need to conduct multi-dimensional analysis on the data. Through the application of data mining algorithm, we can explore and summarize the objective laws and internal relations of data, which will further verify people's research.

## 2.3 Super analytical force

Massive data information gives birth to data mining technology. Therefore, data mining technology must have strong analytical power, which can promote the rapid development of the information world. Through the data model and algorithm, we can explore, analyze and summarize the deep laws of data.



Figure 2: Advantages of data mining

## 3. Functions of Data Mining Technology

Data mining technology has many functions, as shown in Figure 3.

### 3.1 Discovery of data association

There will be a variety of relationships between the data, which we can not get through ordinary mathematical operations. However, through data mining technology, we can find and explore these connections, which is association analysis. Through association analysis, we can find useful association or some kind of connection between data. With the deepening of information technology, a large number of useful and miscellaneous data are stored. However, users are interested in the association rules existing between data, which will facilitate customers to find their value.

### 3.2 Data classification and prediction

Classification and prediction are two forms of data analysis, which are the most common form of data mining tasks. The main ways of classification are as follows. According to a certain predictable attribute or feature, we can divide the data into several categories. Each category contains one or more other attributes, one of which is predictable. Through data mining technology, we can predict the future development of data. For example, the bank will build its own loan classification model based on the database information. Banks will classify loans by customer, which will reduce the risk of loans.

### 3.3 Cluster analysis of data

When we do data mining, we can do clustering analysis, which will analyze the similarity of data. Through further segmentation, we will form more similar subclasses, which will further subdivide the work. Through cluster analysis, we will deduce the rules between the data. Through clustering analysis, we can make the data into a hierarchical structure, which can be further classified and set.

The biggest difference between clustering and classification is as follows. Clustering analysis has no fixed requirement on whether the attributes can be predicted in advance. However, classifications must contain predictable attributes.

### 3.4 Data evolution analysis

Through data mining technology, we can analyze the evolution, which will describe the laws and trends of data. After obtaining the corresponding law, we can refer to it in the next application. For example, we can mine the stock trading data, which will get the evolution law of the stock trading market. Through the evolution analysis, we can help investors predict the future direction of the stock exchange market, which will help investors to invest better.

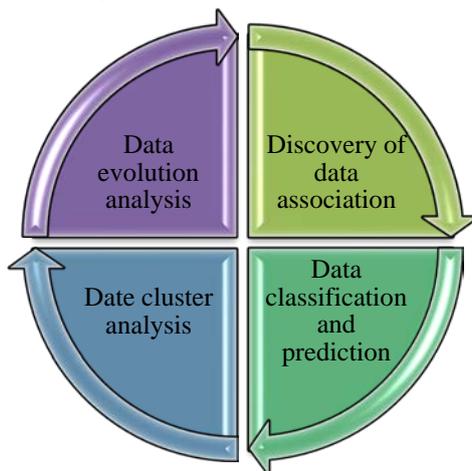


Figure 3: Functions of data mining technology

## 4. Specific Application of Computer Data Mining Technology

### 4.1 Application in marketing

At present, more and more consumers expect to pay with Alipay, WeChat and POS. In this link, the seller can collect part of the consumer's information. With the increase of the number of consumers, sellers can collect more information, which will be more conducive to marketing. Shopping malls can be analyzed according to customers' shopping habits and actual needs. By mastering consumer psychology, shopping malls can reasonably infer the next step of consumer behavior. Therefore, through data mining technology, enterprises can master the needs of all consumers, which will provide reliable data reference for enterprise decision makers. Through model prediction, interactive query and other methods, shopping malls can choose potential customers, which will improve the accuracy of product promotion.

### 4.2 Application in financial investment

In financial analysis, we can use data mining technology to predict the stock market and evaluate the investment, which are the most important two links. The financial industry can help to avoid investment risks through model prediction, statistical regression technology, etc., which will put forward the best personalized investment plan for each customer. Therefore, we can use data mining technology to analysis and predict. In addition, computer data mining technology also has a broad application prospect in commercial banks. Malicious overdraft or fraud are common in the banking industry, they will bring serious losses to the latter, so how to effectively identify and predict this kind of fraud is very important. Computer data mining technology can fully retrieve the detailed information of customers, such as credit, credit, deposit, capital and flow. Through in-depth analysis, financial institutions can analysis the repayment ability of lenders, which will play a supporting role in the audit of relevant staff.

## Conclusions

In the era of big data, our application of data mining technology is more and more mature. Computer mining technology is closely related to our life, which promotes social progress and economic development. Therefore, data mining technology has important value. We should not be satisfied with the data mining and application methods at this stage, we need continuous progress, which will better meet the arrival of the era of big data.

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