Research on the application development model based on big data mining technology

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Abstract: With the rapid development of computer, data mining technology has become a new technology, which can promote the development of computer. By promoting the progress of science and technology, mining technology can meet the search needs of people's lives, which has made great contributions to the whole society. Through computer data mining technology, we can promote the good development of the whole computer field, which solves the specific needs of people for big data information. First of all, this paper analyzes the development process of computer data mining technology. Then, this paper analyzes the development algorithm of computer data mining technology. Finally, this paper proposes a development model based on big data mining technology.

1.   Introduction

Data mining technology is mainly to get the corresponding relationship from big data, which is a large number of incomplete, fuzzy, noisy random data. Data mining technology is the process of extracting big data, which has potential and significance. Through data mining technology, we can find a variety of patterns. According to the function of data mining technology, we can divide it into two kinds, such as predictive mode and descriptive mode. In practice, we can be divided into many kinds, such as classification mode, prediction mode, correlation analysis mode, sequence mode, clustering mode and data visualization. Through data mining, we can achieve the integration of different disciplines, technologies and fields. According to different mining methods, we can be divided into the following kinds, such as statistical methods, machine learning methods, database methods and neural network methods.

2.   Development process of computer data mining technology

The development of computer data mining technology includes many algorithms, such as traditional statistics, genetic algorithm, decision tree, neural network, neural network, etc. The development process of computer data mining technology is shown in Figure 1.
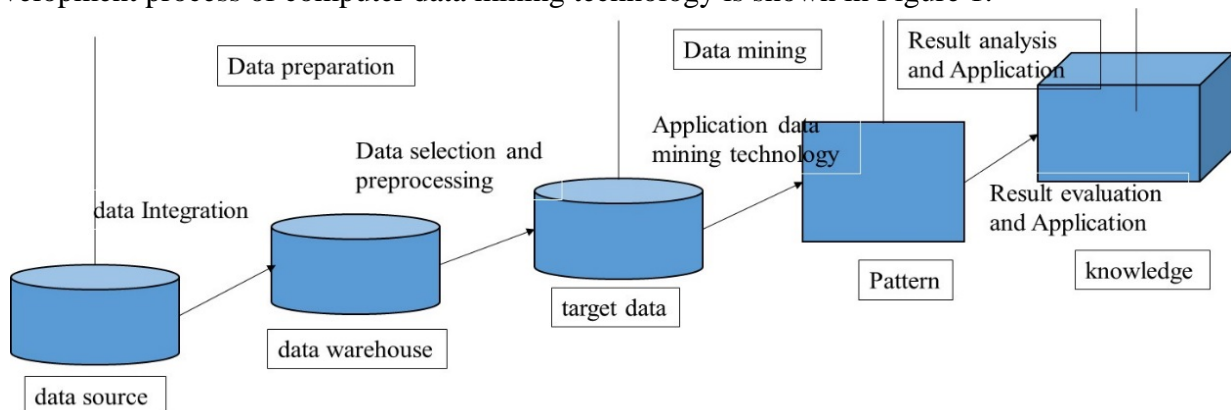

Figure 1: General process of data mining technology

2.1 Define the purpose of data mining

Data mining technology has many functions. We need to define the purpose of data mining according to our own needs. Therefore, we can choose the corresponding database, which can better complete our mining purpose. In the development process, we need to mine the data we need through different data algorithms, which is easy to cause the deviation of the final development results. Therefore, we first need to clarify the purpose of data mining.

2.2 Data selection and preprocessing

After defining the purpose of data mining, we need to choose the target database of data mining, which is the basic database of data mining. Then, we can preprocess, which will exclude some data information out of scope. Through preprocessing, we can correct the wrong data and information, which will ensure that the subsequent mining information is available.

2.3 Data mining

Data mining is the most important part of the whole process, which consists of two steps: the algorithm used and the mathematical model built. Through the most appropriate data mining algorithm, we can build a mathematical model, which can better mine the required information.

2.4 Evaluation results

Through the evaluation results, we can evaluate the data mining results scientifically, which is the detection and verification of the data mining process. Through the evaluation results, we can correct the error information in time. Finally, we can get the requirements of data mining development purpose, which will be better put into practice.
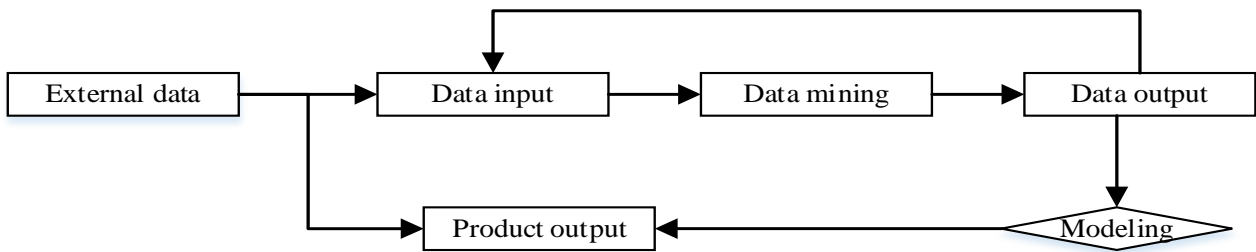
Figure 2: Data mining technology model construction

3. Development and application of data mining technology based on big data

Based on big data, the development model of mining technology is mainly shown in Figure 2, which consists of five parts, such as data input, data mining, data output, modeling and product output.

3.1 Data input

Data input is the first step of data mining technology development, which is the basis of model building. Data input is an inductive display of user behavior description content, as shown in Figure 3.
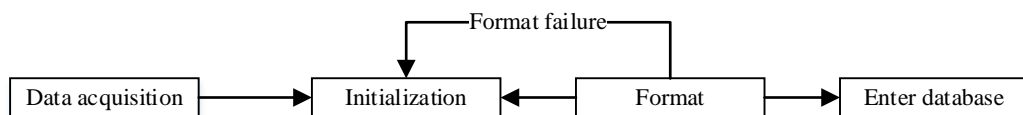
Figure 3: The data input of data mining technology model construction

3.2 Data mining

Data mining stage is the most critical step in the whole technology, which is the inductive summary of user behavior analysis and prediction, as shown in Figure 4.
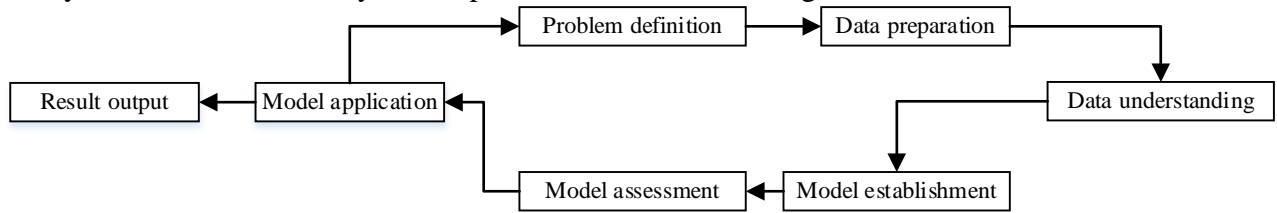
Figure 4: The data mining of data mining technology model construction

3.3 Data output

Data output is the description of the demand target, which is the inductive summary process of user demand transformation. Data output is the process of completing data processing and forming deliverables, as shown in Figure 5.
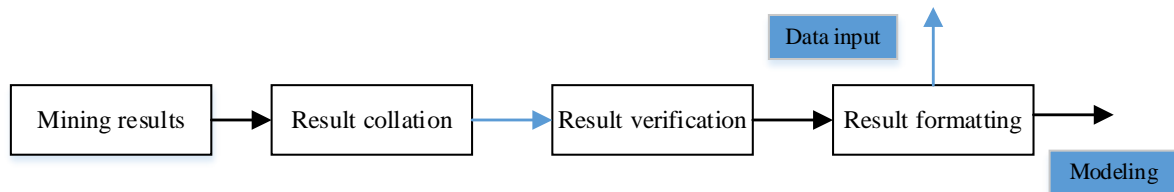
Figure 5: The data output of data mining technology model construction

3.4 Quality function deployment

Quality function deployment is the core of data mining process, which is the inductive summary of modeling process. Quality function deployment is the process of transforming requirements into specific products, which can ensure the scientificity of target quality, as shown in Figure 6.
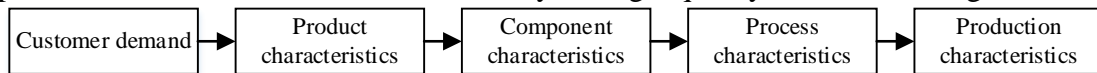
Figure 6: The quality function deployment of data mining technology model construction

3.5 Product output

According to the conclusion of quality function deployment, we can arrange and combine specific businesses, which will form new businesses. Through product output, we can get the inductive summary of product output, trial sale and commercialization. Product output is a process of delivering deliverables, as shown in Figure 7.
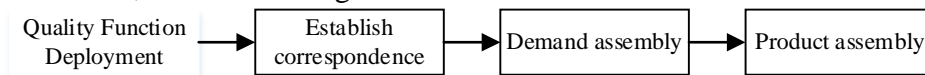
Figure 7: The product output of data mining technology model construction

3.6 Development process of product data mining based on big data

At present, the development process of computer data mining technology has gradually started the transformation of Internet, which will achieve customer segmentation and precision marketing. Through big data mining technology, we can divide customers into different categories. Through the careful analysis of different types of users, we can get the difference of consumer behavior, which is the main purpose of data mining. Thus, we can develop products suitable for different types of customers from these differences. The development process of product data mining based on big data is shown in Figure 8.
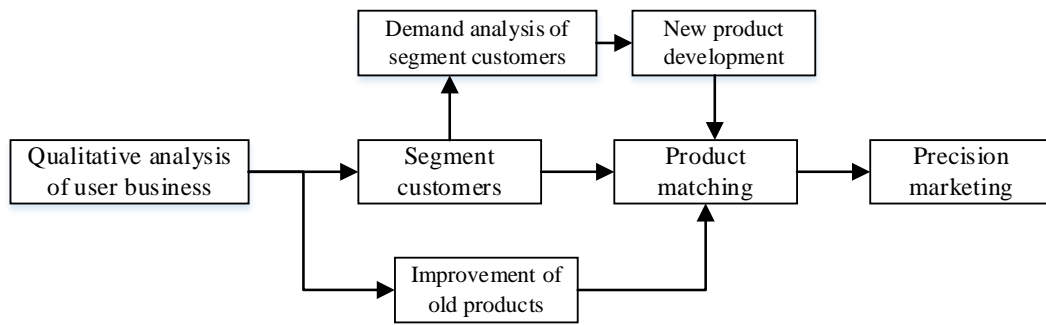
Figure 8: Development process of product data mining based on big data

Conclusions

With the continuous progress and development of science and technology, the computer field has also been rapid development, especially data mining technology. Data mining technology has been fully recognized in various fields, which has played a great role Through data mining technology, we can quickly get the data which can't be completed by human, which improves the overall efficiency of the work. By building a complete database, we can better carry out data mining, which better promote the development of enterprises.

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