

# *Network Information Platform Construction Based on Computer Data Mining and Processing*

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**Abstract:** The network information platform contains a large amount of data in various types. However, due to the limitations of data organization mode, fragmentation and other problems, the application value of data is difficult to be fully mined. The application of computer data mining and processing technology can, on the basis of following certain rules, dig deep into massive and scattered data, find out the regular parts, and reasonably classify, summarize and summarize the data. Therefore, based on computer data mining processing, flexible construction of network information platform can not only improve the effect and quality of data management, but also help to improve the rate of data utilization and maximize the application value of data. In view of this, the in-depth analysis of the network information platform, the specific application of data mining processing technology in the platform construction, and feasible countermeasures for platform safe operation are put forward.

Computer data mining processing technology can be extracted from valuable and available information from massive basic data through the rational use of various algorithms, such as clustering, correlation, so as to provide favorable conditions for people to master the formulation of new knowledge, new laws and scientific basis. Taking this technology as the foundation, strengthening the construction of the network information platform can promote the improvement of the quality and level of information service. However, the construction of the network information platform needs to be connected with the server and the database, so it is necessary to flexibly use the data mining algorithm and use the code presentation to ensure the smooth operation of the network information platform.

## **1. Computer data mining processing technology and algorithm**

The data mining and processing technology based on computer development mainly refers to the in-depth analysis and sorting of fragmented data and fragmented data through the rational use of smart phones, terminal computers and other electronic devices, so as to dig out the valuable information. During the period of computer data mining processing, strengthening the use of network technology, paying attention to the data sorting and mining, can provide technical support for the development of various fields and industries. Through the use of this technology, it can not only be used as a source of information, but also promote the role and value of the network information platform. During the construction of the network information platform, in order to

standardize the data processing and highlight the advantages of data mining and processing technology, the utilization of various algorithms should be strengthened. At the present stage, the common algorithms are mainly as follows:

### **1.1 Cluster algorithm**

This method is a typical unsupervised learning, the applied sample category is unknown, but the algorithm model is known, the purpose is to build the physical or logical internal correlation between the data, and finally form the data cluster. If the data clusters are consistent, the characteristics are basically the same and the similarity is high. However, if the data cluster is different, the difference between the internal data is significant

### **1.2 Association algorithm**

In the background of information, massive data needs to be stored with the help of database, such as relational database, transactional database, etc., and the connection between each data is close. And during the specific application period, most people will present specific patterns. Through the application of this algorithm, this correlation pattern can be quickly discovered and refined<sup>[1]</sup>.

### **1.3 Classification algorithm**

In the process of utilization, this method is mainly trained into a classifier through the application of a batch of samples with classification labels, and the classifier should form regular data support. When applying such algorithms, classification models can be built before data classification, leaving the data in the form of different concept sets.

## **2. Construction method of network information platform based on computer data mining and processing**

### **2.1 Construction of the overall platform architecture**

In the construction of the network information platform, we must first build a perfect platform architecture. During the actual operation of the platform, the massive data and information should be stored and analyzed efficiently. Through the flexible use of the server and the continuous optimization of the data mining procedures, the front-end interface should adopt interpersonal interaction to make the whole operation process more convenient. When the overall architecture of the platform is constructed, the design of the database is difficult, and the stable operation of the database is direct. Therefore, in order to improve the efficiency of data mining and improve the reliability and security of platforms, servers and databases, we should improve in the following aspects:

#### **2.1.1 Server**

All kinds of requests sent by the browser client will be processed and responded to by the server, and the data mining algorithm is deployed on the server, so feasible and reasonable forms should be taken during the specific construction period. In the design of the server, the scale of requests and the frequency of data processing should be considered comprehensively. If a single server is arranged, the response ability and speed is difficult to meet the expected. Therefore, in the engineering practice stage, it is necessary to strengthen the construction of the data cluster to ensure

that the responsiveness of the server can be improved overall. In the operation stage of the network information platform, the number of users is large, and the number of requests and the scale of data processing in the same time are large. Therefore, during the construction of the platform, the establishment of server clusters should be emphasized to promote the improvement of system data calculation and processing efficiency<sup>[2]</sup>.

### **2.1.2 The database**

In the process of building the network information platform, the data storage volume is large, and only the big data has the value of data mining. In addition, data security, storage capacity, fault recovery, and response speed are closely related to database design. Therefore, during the establishment of the network information platform, in order to make the overall architecture more sound, attention should be paid to database design to avoid blocking problems.

## **2.2 Front-end design**

In the process of building the network information platform, on the basis of clarifying the overall architecture of the platform, the front-end design work should be done well, specifically from the following two aspects.

### **2.2.1 Functional requirements**

In the front-end design, to provide the necessary entrance for the user operation management. Because the industry is different, the data characteristics are often quite different, so different ways should be adopted in the data analysis. In order to improve the rationality of the front-end design and make the platform run stably in the later stage, during the design of the front-end interface, the different needs of users should be comprehensively considered, and different types of display Windows and function buttons should be set on the interface. When operating, users only need to click the corresponding button on the interface, and complete the classification and aggregation of data by quickly calling the database. The front-end interface has many functions, such as automatic customization. However, it should be noted that the design of the front-end interface should be kept the same as the database table structure and the underlying data code, highlighting the systematic characteristics of the design<sup>[3]</sup>.

### **2.2.2 Correct selection and application of the front-end development framework**

In the previous technical route, through the application of the front-end development language, such as HTML, CSS, etc., the page is reasonably compiled to achieve color rendering. With the continuous development of technology, the more powerful front-end JS development framework is widely used, such as JQuery, Zepto, etc., which can be used jointly with the front-end UI framework, making the types rich and diverse. In the application process, this kind of framework can achieve the efficiency of front and back end analysis, make the whole development mode more advanced, and make the data interaction between the front and rear end through the interface. Network information platform is the web page as the basis, further development and application.

## **2.3 Database construction**

Whether the construction of the database is reasonable or not has a direct impact on the processing and application of the subsequent network data information. Therefore, in this process, attention should be paid to the selection, function and security of the database, and the database

should be flexibly constructed according to the requirements of the platform construction.

### **2.3.1 Database selection**

Currently, for some large storage databases, the main type is relational databases. Mysql is the most commonly used product in China. The level and maturity of this kind of technology is high, and the database storage volume developed is large. Through the reasonable application of cloud storage technology, the maturity of large-scale commercial cloud storage services in China will be higher and higher, and the choice range of users will be broadened.

### **2.3.2 Database query capability**

Under the long time application of the database, the stored items will be more and more. If the established value is reached, the retrieval ability cannot maintain the original state. This situation is related to the query pattern of the relational database. Once the responsiveness of the database is reduced, the user experience is difficult to achieve the best. At the technical level, the existing problems can be solved scientifically through the utilization of subtable, partition, distributed and storage methods. In the specific operation process of the network information platform, there is usually a large amount of data information. In order to ensure the best carrying capacity of the database system, in practice, the use of advanced technologies should be strengthened, such as distribution, database clustering, and deployment on different physical machines, so that the databases can be used together to ensure the maximum storage capacity of the database<sup>[4]</sup>.

### **2.3.3 Security of the database**

During the specific application of the database, the risk probability of physical storage area damage is large. If it cannot be effectively prevented, the prevention plan can be reasonably formulated. Once problems occur, it will inevitably cause massive data loss, leakage and other problems, resulting in the reduction of data security of the network information platform. Therefore, in the process of database construction, we should strengthen the perfection of the backup mechanism to ensure that in the case of warehouse damage and data loss, the backup library can respond in the first time, store the original data in the database, and recover the data in a short time.

## **2.4 Specific application of the network information platform**

Combine the association rules and the clustering analysis method to ensure the orderly construction of the network information platform. Through the application of data mining processing technology, there are in-depth analysis of different groups, according to the characteristics of each group, the final identification reasonable analysis. At the same time, different groups are accurately classified, so that while the management ability is improved, and the application of network information platform is more targeted and feasible. Through the use of software, cluster analysis is carried out for each group, the differences between the groups are observed, the characteristics and rules of the network are mined and processed according to various aspects such as online frequency and voice frequency, and the content is concerned around the network information platform and specific application tools, and the subsequent behaviors are predicted through summary and induction. Starting from the analysis at the objective level, through the use of network information platform, the behavior of a certain group can be deeply analyzed to understand the correlation and make targeted adjustments.

In practice, the functions on the front-end interface are displayed through text. The user clicks the button and sends the request according to their own needs. After receiving the request, the

server sends the request to the database again by applying data mining code and algorithm, which obtains the data and processes it into a specific form.

### **3. Application countermeasures of network information platform based on computer data mining processing**

#### **3.1 Strengthen the prevention of network viruses**

Network virus types and attack modes have diversified characteristics, fast transmission speed, once invaded by the network virus, the damage and impact can be imagined. In the process of network virus prevention, ordinary computer users have no advanced technology as the support, and their ideology needs to be strengthened urgently. Although some technical personnel can fully understand the attack mode of the virus, transmission route and other characteristics and rules, the overall level is high, but the continuous stream of viruses, the simple prevention of the virus has been unable to make the network information platform in an absolutely safe environment. In order to solve such problems, in the operation stage of the network information platform, we should strengthen the use of data mining and processing technology, mine new virus types, and ensure that the network virus can be prevented in advance<sup>[5]</sup>.

##### **3.1.1 Strengthen the collection and processing of basic data**

The types and characteristics of various viruses have obvious differences, such as Trojan virus, worm virus, etc., and the formation of these viruses is usually regular to follow. Therefore, during the prevention period, data mining processing technology should be applied to deeply dig the risky code, increase the investigation of the network virus, improve the efficiency and accuracy of the investigation, and kill the network virus in the early stage.

##### **3.1.2 Data processing**

After the potential network virus code is found, it needs to be further processed and verified. With the help of data mining processing technology, in the process of network virus processing, the automation and precision, the application of scientific processing methods, will turn the code into a non-execution format to ensure that it does not have the ability to attack the network information platform. During the application of computer data mining and processing technology, the new types of viruses can also be accurately mined, and the targeted prevention countermeasures can be formulated, so that the network information platform is always in a safe environment.

#### **3.2 Strengthen the optimization of the network information security environment**

During the period of data mining network information management, a safe network operation environment is very important, and the system of relationship platform operation is stable. Therefore, in order to avoid the security problems during the operation of the platform, the security maintenance of the network environment should be strengthened. From the physical and logical perspective, the user access network authorization is strictly managed and controlled to ensure the timeliness of basic network security management. Attention should be paid to the application of network intrusion detection technology, scientific analysis of bad behaviors, in view of malicious sabotage, the construction of detection and early warning mechanism should be strengthened, regular security monitoring of the internal situation of computer networks, to deal with risks in computer systems. The security and reliability of computer network operating environment can be improved by using intrusion detection technology. In the operation of the network information platform, we should strengthen the use of anti-virus technology, conduct quantitative analysis of network security risks, constantly improve the virus protection and virus early warning architecture,

and strengthen the optimization of audit analysis mode. In addition, in-depth analysis of the system access rights, from the specific operation status of the platform, to ensure that the probability of malicious attacks can be reduced, to facilitate the in-depth development of data mining. If there is a malicious attack, the application of network backup and disaster recovery mode should be increased, so that the platform can resume normal operation in a short period of time.

### 3.3 Strengthen network information security precautions

Relying on computer data mining and processing, there are many potential security problems during the operation of the network information platform. Therefore, we should not only pay attention to the optimization of the security environment, but also strengthen the prevention of network information security. The specific analysis is as follows:

#### 3.3.1 Formulate reasonable safety precautions

The emergence of network viruses will seriously threaten the network information security, in the development and application of modern technology, the virus types are diverse, the difficulty of mining increases. And the computer installed anti-virus software is difficult to quickly find the virus, the prevention effect cannot meet the expectations. In order to solve this problem, we should strengthen the use of web technology, enhance the depth and breadth of information mining, timely warning and prevention of network virus risks, increase the tracking of viruses, to ensure that the hidden security of network virus will not spread.

#### 3.3.2 Strengthen the mining of server data

During web browsing, the web server will automatically save and record the information viewed by the user. Therefore, with the help of data mining processing technology, network regulators can deeply dig the log files of the server and accurately judge the security of the network. At the same time, in view of the security of network intrusion, strengthen prevention, so that the network information security is guaranteed.

## 4. Conclusion

In general, the purpose of building the network information platform is to enable users to obtain reliable, true and accurate data services, but it is difficult to give full play to the potential application value of data. Through the use of data mining processing technology, different algorithms can be integrated, the data relations are deeply analyzed, and the application value of data can be mined from different levels, showing many advantages. Therefore, during the construction of the network information platform, we should strengthen the utilization of data mining and processing technology, and constantly optimize the data service function. Enhance the stability and security of the system platform operation.

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