

# Research on computer information processing and security technology based on big data technology

Ting Zou, Baoyi Zhang, Ruixue Liu

(Xi'an Siyuan University, Xi'an, Shaanxi 710038)

**Abstract:** with the continuous development of China's Internet industry, computer information processing and security technology has ushered in new development opportunities. In this process, there are also some challenges that we need to pay full attention to, so as to help the further development of computer information processing and security technology. In order to further improve the comprehensive level of China's computer information processing and security technology, we should continue to deepen the research on big data technology and better integrate it with computer information processing and security technology, so as to promote the further development of computer information processing and security technology and highlight the practical application advantages of big data technology. In view of this, this paper will analyze the computer information processing and security technology based on big data technology, and put forward some strategies for your reference.

**Key words:** Big data technology; Computer information processing and security technology; exploration

## Introduction

Informatization has gradually become an inevitable trend of social development in China. Therefore, we should pay attention to the development of computer information processing and security technology, and combine it with big data technology more effectively, so as to realize the innovation of computer information processing and security technology, and better highlight the practical advantages of big data technology. Improve the efficiency and quality of computer information processing. At the same time, with the support of big data technology, China's computer information processing and security technology will also be further developed. In the face of such opportunities, we should do the corresponding technological innovation and optimization work, so as to help the comprehensive level of computer information processing and security technology to a new level.

## 1. Analysis of the current situation of computer information processing and security technology based on big data technology

With the support of big data technology, the daily life style and work mode of our people have changed greatly. In this process, if we want to promote the further development of computer information processing and security technology, we must analyze the current situation of information processing and security technology:

First, computer network technology is like a double-edged sword. With the support of big data technology, when we carry out computer information processing, we may be attacked by some malicious viruses, which will have a very negative impact on the computer information server. Although computer information processing and security technology has been developed and reformed under the support of big data technology, these reforms are relatively limited, and there is still no way to completely prevent criminals from using big data technology to steal users' personal data information, or even fraudulently using or forging others' identities. This will have a negative impact on users' property and public safety to a large extent. From here we can see that there is still much room for improvement in computer information processing and security technology supported by big data technology.

Second, with the support of big data, some enterprises and individuals often abuse data when using computer information processing technology to work, which will also have a certain negative impact on computer security and is not conducive to the improvement of the overall level of computer security. With the continuous development of China's social and economic level, big data technology can make computer processing information more timely, and can effectively improve the speed of data transmission, which leads to some people's superficial and blind situation when combining big data technology to carry out the processing of computer information data, and few people can carry out in-depth exploration of the corresponding big data content. It is difficult to highlight the advantages of big data technology in computer information processing. In the long run, it is difficult for us to use big data technology to effectively reflect the actual content of computer information processing, which is not conducive to the improvement of data utilization efficiency.

Third, in the new era, the overall quality and level of various Internet services in China have been greatly improved, which has also brought a new direction for computer information processing technology. While processing and analyzing computer information data in combination with big data technology, some staff members can actively create a more secure network environment and try to use big data technology to improve the corresponding level of computer information processing technology. However, due to some problems in software, hardware, technology and other aspects, it is difficult for computer information processing technology to maintain parallel development with big data technology, which can easily lead to the difficulty of high-quality storage and sorting of huge data content, types and information when using corresponding big data content. This will have a great negative impact on the actual application effect. In the long run, big data technology will be difficult to meet the various actual needs of the daily work of computer information processing technology, and problems will occur in the aspects of computer information storage, application, processing and analysis, which will affect the actual efficiency of computer information processing work, and lead to it is difficult to go further under the support of big data technology.

## **2. Research on the optimization strategy of computer information processing and security technology based on big data technology**

### **2.1 Scientific use of distributed storage technology**

Generally speaking, big data technology has the characteristics of diverse structures, fast information transmission speed, large information capacity, etc. Therefore, if we want to carry out its rational application, so that it can provide assistance for computer information processing and security technology, we must try to introduce distributed storage technology into it. This can help users to carry out more efficient information processing for massive data, so as to fully reflect the practical role of big data technology, so that massive data can better serve users. On the one hand, in order to give full play to the advantages of distributed storage technology, we should ensure that the network speed and bandwidth are fast enough. Therefore, it is necessary to set up a special network line to ensure the rational application of high-speed network resources, so that computer information processing technology can call the contents of multiple databases in practice. Improve the processing and information management level of various relevant databases. At the same time, when applying distributed storage technology to computer information processing activities, we should adopt a more complete system structure to make the application of the same data in the system structure more effective, and fully combine the relevant characteristics of different information and data to store them in different databases, and adopt different distribution methods to ensure the actual application quality. Ensure that data can be used and transmitted coordinately and efficiently in the system. On the other hand, in the context of big data, if you want to improve the level of computer information processing technology, you can try to introduce a variety of servers to help users store and identify massive amounts of data information more conveniently and quickly, which can greatly improve the actual efficiency of data use and storage. So as to effectively solve the unreasonable situation of data classification and unification in the past computer information processing technology, and provide more sufficient resources for the development of computer information processing and security technology.

### **2.2 Making full use of big data mining technology**

When carrying out computer information processing optimization activities based on big data technology, we should meet various needs of computer information processing technology, make full use of big data mining technology, so as to make full use of massive big data resources, which is of great significance to improve the innovation level of computer information technology. First of all, we can apply big data mining technology to computer information processing technology, so as to achieve more efficient selection of relevant data content and resources, so as to greatly improve the efficiency of computer processing all kinds of related data, make the process of computer information processing more smooth and efficient, and improve the comprehensive level of information processing. At the same time, after selecting the corresponding resources and data content, we can try to combine the big data mining technology to delete and clean up the invalid data and zero data, so as to greatly improve the authenticity and comprehensiveness of the information used in computer information processing activities. Secondly, when carrying out the corresponding data analysis and processing activities, we can try to introduce big data mining technology, which can better find the relationship between various types of data, so as to find the lack of data information and existing problems, and put forward some data optimization schemes more pertinently. Finally, when applying big data mining technology to the field of artificial intelligence, in order to better improve the efficiency and level of computer information processing activities, we can try to introduce clustering and neural network technology, decision tree technology, etc. when applying it to practical work, so as to enhance the combination level of various data, and use big data technology to make it more intuitive. It can greatly improve the actual effect and level of computer information processing. In addition, when designing clustering processing technology, we need to reasonably classify and define different types of ethnic groups, and use k-means algorithm to optimize the corresponding work, so as to make the relationship between various data groups more scientific and close, so as to improve the scientificity and effectiveness of data result calculation in computer information processing.

### **2.3 Effective use of information security technology**

When conducting research on computer information processing and security technology based on big data technology, we should pay full attention to information security technology. In the process of applying information security technology, computer information processing technology can more effectively highlight the advantages of identity authentication technology and data encryption technology in security technology. So as to greatly improve the comprehensive level of computer information processing technology, and provide full protection for users' data and information security.

First of all, when we carry out the innovation activities of computer information processing technology, we should pay attention to the clarification of the concept of IT network architecture, so as to provide guarantee for the subsequent processing of various types of data and information. At the same time, by continuously strengthening the information processing of the corresponding data resources, and by efficiently optimizing the information data, the security level of network information can be greatly improved. Secondly, when introducing data encryption technology into computer information security technology, we should select appropriate encryption methods and encryption algorithms according to the types and requirements of different information, which can effectively improve the security of data information and the analysis effect of users on data information. In addition, we should clarify the various problems of each data resource in the practical application, and explore the corresponding solutions according to the problems, so as to find more efficient means of information processing. Finally, we should reasonably apply MD5 algorithm, which is also a very important data encryption technology in information security technology, and it has irreversible computing characteristics. In the actual use process, we can use any symbol and data to carry out statistics on the corresponding computer data resources. At the same time, on the premise of ensuring the effectiveness and security of information resources, we can use this algorithm to encrypt the generated data information. If users want to call the corresponding data, they need to compare the relevant data with the information stored in the database, so as to verify the user's identity. At the same time, in data transmission, we can also introduce similar encryption technology

to improve the security of data information by means of keys and other methods, laying a solid foundation for the development of computer information processing and security technology, and improving the confidentiality and security of data information.

### **3. Research on the development trend of computer information processing and security technology based on big data technology**

In the process of China's economic development, big data technology has been widely used in various fields of people's life, study and work, and has also played an important role in the development of computer information processing and security technology, which also gradually ushered in a big data era. Under this background, computer information processing technology has also ushered in new development opportunities. With the continuous improvement of the comprehensive level of network technology in China, cloud computing network under the influence of big data technology has been widely applied to all levels of learning and life. Therefore, when developing computer information processing and security technology, it is likely to combine it with cloud computing technology and optimize it as a core. Its purpose is to further improve the actual efficiency of computer information processing. At the same time, when introducing cloud computing technology into computer information processing and security technology, we can combine the characteristics of different network software and data, carry out reasonable analysis on responsive data and programmatic data, and integrate different information resources and data types to form a cloud computing network. This can greatly improve the development efficiency of computer information processing technology and the storage capacity of computer information processing.

In addition, by introducing cloud computing technology and cloud network technology into computer information processing and security technology, we can further expand the development direction and applicable scenarios of computer information processing and security technology. In the context of big data, computer information processing and security technology can combine the rich data resources contained in big data technology to share, and provide convenience for personal information resources acquisition and sharing through the connection of various data systems and network resources, so as to promote the openness of network information. In this process, due to the increasing openness of network information, there will also be some network security risks. Therefore, when developing computer information processing technology, we can use the way of enhancing data security technology, combined with big data technology to further improve the quality of network security maintenance and network security management, so as to help further improve the comprehensive level of computer information processing and security technology. By ensuring that computer information processing technology and security technology go hand in hand, we can gradually build an information technology security system and promote the further development of computer network information technology.

### **Summary**

To sum up, if we want to improve the research level of computer information processing and security technology based on big data technology, we can analyze it from the aspects of scientific use of distributed storage technology, full use of big data mining technology, and effective use of information security technology. In order to promote the quality of computer information processing and security technology based on big data technology to a new height.

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