

Research and Analysis of Computer Application Technology Based on Big Data Environment

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Abstract: In the big data environment, the development of computer application technology has ushered in new development opportunities, but also faces new challenges. At present, if we want to promote the innovative development of computer application technology, we must innovate its development model. By introducing computer application technology into the big data environment, the application of computer application technology can promote the intelligent development of data processing and expand the development space of computer application technology. Therefore, the article conducted research on computer application technology based on the big data environment, so as to explore the path to maximize the value of computer application technology in the big data environment.

1. Introduction

At present, computer technology has been widely applied in people's lives and work, especially in the big data environment, and the application scope of computer technology is constantly expanding. With the application of computer application technology in people's production and life, it can not only provide effective tools for people to efficiently complete work, but also reduce people's work pressure. In the big data environment, the development of computer application technology not only welcomes new development opportunities, but also faces new challenges. This requires relevant staff to actively explore scientific methods and establish new application thinking that is suitable for the big data environment. Therefore, studying computer application technology based on the big data environment helps to maximize the value of computer application technology.

2. Types of computer application technologies in the big data environment

In the big data environment, the field of computer applications is constantly expanding, and massive amounts of data are born every day. Enterprises need to effectively mine, analyze, and utilize these massive amounts of data in order to make information resources the driving force and foundation for enterprise development.[1] At the same time, in the era of big data, information resources are showing explosive growth, and information security has become one of the concerns of people. At present, how to ensure the security of information data in the use of computer application technology is a topic that needs in-depth research. In the big data environment, there are three main types of computer application technologies: virtualization technology, cloud technology, and

information security technology.

2.1. Virtualization technology

Virtualization technology refers to a technology that virtualizes and manages various types of application data.[2] In a big data environment, by scientifically combining virtualization technology with computer application technology, it can optimize the allocation of computer application and service resources, enhance the flexibility of computer application services, and reduce costs to a certain extent.[3]

2.2. Cloud technology

From the perspective of cloud technology, it belongs to the newly emerging technology in the field of computer applications. It can not only collect people's production and life information and unify management in the cloud, but also provide various application functions and software services integrated in the cloud. The application of cloud technology has led to a new application mode for computer application technology, where big data is processed in the cloud, and users' local terminals only need to be responsible for receiving application service results, which can reduce the performance dependence on local devices.[4]

2.3. Information Security Technology

Information security technology is network security technology, and the application purpose of network security technology is to protect the security of big data in computer applications. With the construction of a scientific information security framework, multiple functions such as security protection and backup of application data are achieved to ensure the security of big data information and avoid negative effects caused by information leakage.

3. Factors influencing the application of computer technology in the big data environment

3.1. The impact of external sudden factors

From the perspective of network operation, it inherently has high complexity, and its internal operation also has high requirements for the external environment. Usually, if the external environment changes, such as floods, magnetic field interference, etc., it will have an impact on the network system. Therefore, it is currently necessary to establish multiple information repositories to avoid sudden events calling data, in order to avoid the phenomenon of permanent loss of information.[5]

3.2. Virus contamination during file transmission

Users of network information technology do not have much knowledge in this field, and lack a profound understanding of viruses, making it difficult to use computer networks correctly. This can lead to network files being infected with viruses during transmission. When users use computer networks, they lack vigilance and spread files carrying viruses invisibly, which can bring serious harm to the operation of the network system.

3.3. Incomplete information management system

At present, a large population base is one of the most basic national conditions in China, which

also means that the number of netizens in China is very high. Especially in the context of the rapid development of network technology, the virtual world of the internet has rich and exciting content, which has great appeal to people. However, due to a lack of awareness of network security on the internet, it is highly agreed that various forms of fraud cases may arise, posing a threat to people's lives and property security. In addition, the current information system management system is not yet complete, and the identification of network users is not clear, which will inevitably increase the complexity of the network environment, leading to many loopholes in the system and making it difficult to effectively supervise.

4. The application strategy of computer application technology in the big data environment

4.1. Strengthening awareness of information management

In the big data environment, the development of various information resources is gradually showing a diversified trend, which will make people face huge information differences in the process of obtaining information. Because information differences have various forms of expression, one is the difference in the effectiveness of information resolution, and the other is the difference in the face value of information that different people have. Therefore, in the big data environment, for the application of computer application technology, it is necessary to establish a scientific responsibility management mechanism during information processing and implement it in the implementation of information management work. At the same time, in order to better utilize the application value of computer application technology, it is still necessary to establish an awareness of information management and fundamentally solve the current situation of low management efficiency.

4.2. Improving the information management system

From the perspective of the development of various industries, information management is crucial. Therefore, as information management personnel, they must possess professional computer application skills in order to effectively carry out various information management work. At the same time, establishing an information management system is a prerequisite for the smooth implementation of information management work. Therefore, it is currently necessary to rely on computer application technology for database construction, as well as an integrated information management system with multimedia technology, to unify the management and implementation of work content. At present, the control of information is closely related to the trade secrets of general enterprises. If information is leaked, it will inevitably bring huge economic losses to the enterprise. Therefore, it is necessary to establish a comprehensive information management system at this stage to ensure the stable and safe operation of the system. In response to the problems and defects in information management systems, it is currently necessary to conduct regular inspections and maintenance to solve the problems and provide good support for the rapid and orderly development of information management work in computer application technology.

4.3. Improving the quality of information resources

With the growth and development of enterprises, the amount of information that needs to be collected and stored increases, which continuously increases the workload of information management and brings new challenges to the implementation of enterprise information management work. From the perspective of enterprise information management work, as managers, we should conduct preliminary analysis of information, then screen useful information for reporting, in order to provide scientific basis for enterprises to make correct decisions. As a leader of an enterprise, it is

necessary to communicate effectively with the information management department, timely understand the latest information resources, and screen valuable information based on the development needs of the enterprise to provide a scientific basis for making development decisions. At present, in order to improve the quality of information resources, it is necessary to expand the information sources of information databases, analyze and organize information, deeply explore the value of information, explore channels for information collection, and comprehensively process information, so as to in order to enable real-time sharing of information resources and provide enterprises with rich information resources. By screening valuable information for storage and management, it can improve the database system to meet the actual development needs of enterprises.

4.4. Updating network security technology

At present, the development of network security technology is closely related to the development of hacker attack technology. In the process of playing games with hackers, some network enterprises often solve vulnerabilities by discovering them, or they may hire cutting-edge professionals in the industry to attack their own vulnerabilities and make up for them. This method is an effective network security maintenance method. In addition, information encryption technology and identity verification technology are also the latest network security technologies. From the perspective of information encryption technology, in fact, by converting the original file into ciphertext, users need to use ciphertext to open the file. Currently, the application of this technology mainly focuses on areas such as network banking, network databases, and USBKEY. The application of identity verification technology is to transform user information into digital form, transforming user information into digital information, and then collecting user parameters. At present, the application of this information collection method has high security. However, in practical applications, there are issues such as high cost and low popularity, which leads to a narrow application range of this information collection method, usually used solely on access control devices. After the update of information technology, the requirements for network security continue to increase, and the application range of identity verification technology is expanding, mainly through fingerprint, facial recognition, voice control and other methods, further improving the security level of the network.

5. The development trend of computer application technology in the big data environment

5.1. Intelligence

At present, information technology is in a constantly updated state, with its functions gradually increasing and intelligence gradually becoming a new development direction. At present, the intelligent development of computer application technology is mainly reflected in artificial intelligence. Artificial intelligence refers to an intelligent computer formed on the basis of modern technology, which has multiple abilities such as learning, reasoning, and logical judgment. It can be said to be a container of human intelligence. Artificial intelligence not only imitates human thinking, but also analyzes information and makes decisions, playing an important role in extending human intelligence. Currently, artificial intelligence has been widely used in people's lives, such as the voice assistant of smartphones, which can help users send text messages, make phone calls, play music, and even have conversations with mobile phone users. In the future development, artificial intelligence will have broader application prospects. To achieve this goal, relevant practitioners need to actively explore and innovate, promote the intelligent application of computer application technology, and meet people's diverse needs.

5.2. Networking

In the context of network technology updates, the relationship between computer application technology and network technology is becoming increasingly close. In the big data environment, the networking of computer application technology can not only promote the rapid development of communication technology, but also accelerate information construction. In people's daily lives, the internet can be used to search for and obtain information, enabling people to meet their learning and entertainment needs. In the future development, computer application technology will inevitably be based on traditional communication technology, combined with Bluetooth technology, network technology, etc. to build new network systems, in order to expand the scope of communication, improve the speed of information transmission, and enable high sharing of information resources. In the process of network system application, users can use wireless devices to access the network and freely use massive network resources to obtain the necessary information, understand society and the world.

5.3. Popularization

From the perspective of the service target of computer application technology, the general public is its service target, and the popularization of computer application technology is also an inevitable trend. Against the backdrop of continuous application and popularization of computer products, people's dependence on computer products has increased, and the trend of popularization of computer application technology is becoming increasingly evident. In daily life, the application of popular computer products such as smart appliances and smartphones has become an essential tool in people's production and life. The popularization development of computer application technology can not only provide convenient services for people, but also improve their quality of life. Therefore, in order to achieve the popularization of computer application technology as soon as possible, relevant practitioners should conduct preliminary market research to understand the actual needs of users. By combining computer product manufacturing with computer application technology, we can provide multi-functional and popular computer products to the public, better meeting their production and daily needs.

6. Conclusion

In summary, in the big data environment, information resources have become one of the strategic resources for enterprise development, and with the development of big data technology, the amount of information resources that enterprises need to collect is constantly expanding. For enterprises, there are many difficulties in information data collection and management. The integration of computer application technology can make information resource collection work real-time and reliable, and can also maintain and upgrade computer management systems to ensure that enterprise information is in a secure state.

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