

Analysis of Computer Information Processing Technology in Big Data Age

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Abstract: Information that people acquired every day has multiplied in big data age, so computer information processing technology needs to develop as well. Based on this, analyses of the technology are conducted by starting with the characteristics of information and data in this article. Besides, processing technology is discussed and analyzed for reference from the aspects of its defects, the relationship with big data, and its application in big data age.

Keywords: Big Data; Computer; Information Processing; Information Security

1. Introduction

In the age of big data, information processing technology should develop towards efficiency and higher processing ability to better serve users. At present, there are new network users and trillions of bytes of data generating every day, leading to an increasing workload for computers. Therefore, new ideas, concepts and technologies are needed in order to handle data. More importantly, people's quality of life and social economic level will also be improved as the technology develops.

2. The characteristics of data and information in big data age

Big data refer to massive data, and big data technology is information extraction technology. Currently, a large amount of data exists in both social development and people's daily life, and the transmission speed is fast and with short time delay. The forms and channels of information transmission have been enriched, especially during the development of Internet technology, which is gradually developing towards a diversified direction^[1]. In the age of big data, the characteristics of information and

data include huge amount of volume, fast speed, rich and diverse forms of transmission. According to historical records, the storage capacity of network data is calculated in the unit of TB, but now it is upgrading to calculate by ZB. For example, online education has been developing rapidly, and has nowadays become one of the important learning methods for students in recent years, which is the most intuitive embodiment of the rich and diverse forms of communication in the big data age.

Based on this, the relationship between big data and information processing can be figured out. Information from any channel can be obtained through information processing technology, and big data can achieve accurate services based on the needs of target customers, thus obtaining the highest benefits. Generally speaking, information processing is an essential technology in the big data age. It is, however, also a sword of Damocles. It is necessary to plan specific scales through continuous improvement, so that the security of core data can be fundamentally guaranteed. Information processing includes DEEP WEB data recognition and collection technology, distributed data storage, data mining based on content

information and so on^[2]. Taking distributed data storage as an example, GFS technology proposed by Google is the most popular technology at present, which can load the most data in the shortest time to effectively improve the efficiency of disk use.

3. The defects of computer processing technology

In fact, China's information processing technology is in good development, and is in steady improvement in an overall technical level. It plays a vital role in helping people improve their quality of work and lives. Big data has provided a brand-new channel and technology for information processing, and the related industries have obtained more room for development. For example, in e-commerce industry, data screening, a technology in information processing, helps sellers better choosing customers and realize targeted marketing. However, with the rapid growth of data volume and increasingly complex structure, the problems existing in traditional information processing are gradually emerging, mainly in the following aspects. Firstly, the information security risks are increasing; and there are more channels for computer viruses and hackers. Therefore, information security cannot be guaranteed, and data may lost and be stolen^[3]. Secondly, the talent resources cannot meet the suddenly increased needs for computer professionals in a short time, which hinders the development of processing technology, and make the whole industry fall into a sluggish state with a slow or even stagnant development speed. Big data itself is a kind of commercial resource. However, data and personal information loss occurs commonly in recent years, which not only leads to serious negative impacts on people's daily lives, but also threat property and life safety. For example, in 2018, a well-known cybercrime gang stole customer's credit card and debit card numbers of Saks Fifth Avenue and Lord & Taylor. They leaked 5 million card numbers, and sold 125,000 account information, which caused great troubles to the normal life of the people involved^[4].

4. The application of computer information processing technology in big data age

It can be found that there is a close relationship between big data and information processing technology

from the above analyses. Moreover, from the technical level, information processing technology needs to further develop to better protect personal and enterprise information security, and to provide users with accurate search methods when facing complex information resources.

4.1 Data information security protection

Information security is the key content in big data age. It is necessary to not only improve the security system, but also develop protection products to avoid data leakage. For example, agencies of China's government cooperate with Shenzhen local scientific research institution to develop a brand-new information processing system to effectively ensured the security of the information in the local government system^[5]. Except for that, the institution is also actively researching and developing security protection products for social individuals and enterprises to protect their data to the greatest extent. For example, a logistics enterprise has introduced foreign advanced software and hardware equipment, so that the internal information security of the enterprise can be improved to the greatest extent. Meanwhile, it has carried out a "school-enterprise cooperation mode" with universities, to establish a training base and strengthened the talent resource reserve for the enterprise. Taking Da Han software as an example, website groups can be created by using the software which adopts combined management methods. Its security design is carried out in the aspects of identity authentication, access control, security audit, residual information protection, communication integrity, communication confidentiality, anti-repudiation, software fault tolerance, resource control, etc. Information protection has been comprehensively developed in big data age, such as identity authentication, data encryption, tunnel technology, analysis technology and so on. From the current situation, however, these technologies still need to be improved, which is also the main reason leading to the frequent data safety problems. Therefore, it is necessary to build a perfect framework system based on the current practicals so that information technology can be better developed and the accuracy of information can be effectively enhanced. For example, 3 million pieces of sensitive information were leaked in the major information trafficking case uncovered in April 2018 in Guiyang, China^[6]. After that, the

computer system in Guiyang was over whole updated. All nuisance call numbers are recorded in the data center and present to the public to ensure the security of public information to the greatest extent.

4.2 Data information transmission processing

With the help of big data technology, high-quality data information transmission and processing technology can be figured out. The volume of user data has reached an astonishing large number in the age of big data, and is constantly being updated. Meanwhile, the corresponding information transmission and processing technology should be updated accordingly based on the characteristics of the age to set up corresponding information transmission and processing channels^[7]. For example, security risk assessment is realized and specific analysis indicators are established with the help of security failure algorithm and network risk assessment standard system. Through the adoption of similar maintenance technology, the level of channel protection will be improved, and many risks will be effectively avoided. Cloud disk, taking it for an example, as the main data storage technology, there are many risks that cannot be predicted. Therefore, it is necessary to analyze its operation mode and network environment, and determines the specific security index standards to realize the evaluation of the system. In this case, the specific security problems can be determined, and sense of vigilance as well as implement preventive measures will be improved. Besides, it is useful to establish information and communication network security evaluation systems based on big data to comprehensively monitor the network operation status and automatically assess risks, so that alarm signals will be sent, and security risk will be discovered in time. For example, blockchain and identity authentication technologies are applied to ensure the security of information communication network. Blockchain itself has the characteristics of unforgeability, irretrievability, anonymity, etc. In practical application, information that is received and sent through blockchain is encrypted in the process.

4.3 Data perception acquisition processing

The traditional computer processing technology can no longer accomplish the functions of acquisition and

perception efficiently, but perception acquisition is necessary. In addition to the DEEP WEB data recognition and collection technology mentioned above, information data can be effectively integrated to lay the foundation for subsequent data processing. However, there are a lot of dynamic data in the deep-level network technology, which is highly distributed and special. Therefore, further innovation is required to improve the value of information^[8]. The number of period of use can be adopted as a parameter in the access mode of data-aware acquisition technology to improve the quality of data integration. The main utilization areas are data adjustment and sampling survey. The speed of data conversion is fast, and is of huge amount of parameter information. In order to ensure the quality of parameter push and make data into fully effect, it is necessary to optimize the computer-related technologies to meet the problems encountered in the process of data processing^[9].

4.4 Data selection and mining processing

Data mining is also the focus in information processing. Currently, data mining includes bionics and artificial intelligence. Data mining is most commonly used in E-commerce industry. Through information preprocessing, clearing and screening, and artificial intelligence evaluation, the most valuable customer information will be found eventually. Enterprises of e-commerce can provide personalized services for such customers based on the analysis results. But data mining relies on searching engines very much, especially in the context of big data age, which needs to be deeply and selectively mined. For example, an e-commerce enterprise uses parameter mining technology to collect customer's historical information of purchased goods to realize intelligent recommendation function, and establish corresponding monitoring system as well as early warning system. In this case, the operation effect and efficiency has been further improved. When comes to an exception, it will be included in the fault database, and the best solution will be selected to make the processing work develop better^[10]. For example, the data is not simply csv. It is saved according to the text. For a piece of data, such as "ID//texttexttexttext", in which the "/" should be used as a separator, and the reading method is as follows: `train = pd.read _ CSV ('../input/training _ text', sep = "////",engine =`

4.5 Data storage classification processing

In addition to the above four aspects, it is also necessary to make data storage classification into practicals. As a basic link, there are already many real-time and efficient data filtering technologies to realize the dynamic control of information source^[11]. Data storage classification processing in the new period is necessary to post-process the large-capacity information. Meanwhile, the ability to collect, edit as well as classify the information is also required to realize the whole tracking management and lay the foundation for the subsequent information search. However, the amount of data has increased rapidly and changed dynamically. Therefore, a corresponding data storage and classification system should be established to shorten the search time. For example, after reviewing the information, Da Han website group will send the information to different areas according to the actual situation. In addition, the biggest feature of this website group is that it can regularly sort out the past data and realize seamless transplantation. This is why that the website group has its detailed classification rules, and no problem in the information database contains multi-source files. Different object instances can be created by using new operators, which will be placed in dissimilar memory spaces without affecting the state of other objects if there are any changes being made. For example:

```
Rectangle r1= new Rectangle(3,5);
```

```
Rectangle r2= new Rectangle(4,6);
```

At this moment, memory space will be allocated for width and height, two member variables, each of them occupying different space^[12].

6. Conclusion

Above all, life is becoming more intelligent and networked, and even the social economy is being digitalization gradually. Utilization of resources has been greatly improved, and various industries are developing better. Information processing technology is an in-

dispensable link in big data transmission, but the traditional technology, which no longer meets the current needs, must be continuously innovated and optimized to further improve data storage and information security.

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