Research on Computer Application Technology Based on Big Data Environment

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Abstract. After the emergence of big data, people have a deeper understanding of data segmentation. With the support of computer hardware, people can face huge amounts of data and extract useful information in a short time. This is particularly important for countless industries. As for the lives of ordinary people, because of the emergence of big data, people's work and life efficiency has become more efficient, so we can say that big data is a new and epoch-making technology. This article focuses on analyzing the significance and development of current big data processing technology, and proposes the challenge of computer processing technology under big data. I believe that the promotion of computer applications in the age of Big Data growth has some significance.

Keywords: The Big Data Era, Computer Software, Technology Application

1. Introduction to big data

Broadly speaking, the huge data refers to a mode of processing data volume, and the processed data quantity needs to be within the range of computer operation. However, for ordinary computer software, it is difficult to cope with big data effectively. Because its data volume exceeds 1PB, it is called big data. The continuous development of social development and lifestyle, as well as the gradual growth of the Internet of Things, have gradually bridged the gap between traditional consumers, the main production and circulation, providing the main line of revolutionary change and innovation for the new era of social transformation; commodity producers and operators. People must face the opportunities and challenges associated with the age of huge data, while fully enjoying the resource sharing platform provided by modern Internet technology, they must also face more open market competition, optimize market management strategies, and further improve the level of computer technology. Features Big Data era has massive data, high information processing speed, and diversified data forms. The level of data volume has been sublimated from the traditional TB to the ZB order, and the rapid processing of massive data has higher requirements, such as text, pictures or other streaming media. Data processing requirements such as multiple and complex data are also more detailed and strict. With the rise of IAAS and IOT, traditional industrial production, commodity circulation and scientific research have stimulated the thinking revolution of database matching and traditional information retrieval, and Promote the transformation and growth of traditional corporate
structures. (As shown in Figure 1).

![Figure 1. Related content in the age of huge data.](image)

2. The main types of computer software technology in big data environment

2.1. Cloud storage services
In the construction of modern society, cloud storage services have been widely used. Through the application of cloud storage services, many shortcomings of traditional storage methods can be solved, and the constraints of time and space can be freed. People can download and view various information resources stored in the cloud only by using network terminal equipment and ensuring that other networks are connected. Cloud storage is an organic whole established by a large number of storage system units, which usually integrates a series of functions effectively to realize the storage of information resources under mutual cooperation and mutual promotion, that is, the network database commonly mentioned by people [1-3]. In the big data environment, cloud storage services can provide people with very convenient information services, and can comprehensively organize and classify massive information data. Therefore, there is a complementary relationship between cloud storage service and big data. Cloud storage service is not only a necessary part of data processing in the environment, but also an important part.

2.2. Data acquisition and transmission technology
Computer software technology can achieve data collection and processing in such a big data environment. In practical applications, computer data analysis of large data processing needs to be a comprehensive collection is an important prerequisite. After a comprehensive collection of data required for a certain job, the computer can rely on the corresponding software and hardware devices to realize the scientific operation of huge data. The progression of data acquisition and collection is also the course of huge data examination and processing and classification. After scientific operation, the original massive and complicated data stream can be summarized and sorted according to the corresponding sequence, but the data is transmitted to the network server, or other network terminals or the cloud through the standardized transmission rules.

2.3. Virtualization Technology
The so-called virtualization technology refers to the implementation of management based on virtual resources, and implementation of corresponding optimization of the internal resources of these huge data. In the huge data age background, through reasonable use of virtualization technology, it can the information processing efficiency can be effectively improved, but also allows users showed strong flexibility in practice. In recent years, virtualization technology has attracted more attention from the life, and many explore institutions and enterprises have carried out comprehensive and in-depth research on this technology. In addition, virtualization technology is not only embodied in computers, but also more and more widely embodied in the daily life of the general public (As shown in Figure 2).
3. Practical application of computer technology in big data environment

3.1. The practical application of computer software in business communication.

In business communications, computer software applications are essential technologies. For example, through the application of IBMSPSS predictive analysis software, effective analysis of business information can be realized and the maintenance of customer sources can be carried out. For another example, through the application of XO technology, it is possible to effectively evaluate and grasp the development of customer behavior, and to find out various problems in business management in time [4]. In addition, through the application of network analysis accelerator, we can build a harmonious interactive platform for commercial communication and create a harmonious development environment for commercial communication, in order to develop the maintainable and stable growth of the commercial communication area. The development of computer software and application development technologies in the field of commercial communications has a very close relationship. Taking China Mobile, China Unicom and other communication enterprises as examples, these enterprises will collect and process the relevant data of consumers' consumption habits and behaviors by relying on large computer software and technical data environment to achieve behavior in the development process. After effective evaluation of these data, evaluate users' consumption motivation and consumption needs. In the subsequent development of enterprises, enterprises can locate customer groups more accurately, communicate and cooperate with other enterprises scientifically, and effectively improve the comprehensive benefits of commercial communication development.

3.2. Practical application of computer software technology in commercial operation

As a representative technology in the 21st century, computer software technology has broad application in commercial operations, which may affect a number of industries and fields, and provide help for the development of related industries and fields. The application of a series of computer soft technologies can not only improve the working efficiency of enterprise staff, but also scientifically allocate staff posts and working hours, thus promoting the healthy and stable development of enterprises. For example, in a museum management, the staff can build real-time information sharing platform by means of mobile phones, tablet PCs and other mobile terminal. Through this platform, the museum managers can grasp the business information of each visitor in time, and provide different targeted services for different visitors according to their visiting needs. With the continuous deepening of the market economy, market competition in all walks of life is becoming increasingly fierce. The
competitiveness of an enterprise depends to a large extent on its own service quality, and high-quality service quality is inseparable from the strong support of science [5]. Therefore, the development of computer soft technology is significant to improve the market competitiveness of enterprises. The following figure is about the total market value of listed companies in the world today. Most of these listed companies are involved in computer technology, which shows that support today’s competitive market cannot do without science and technology. For another example, in the operation of enterprise user information, managers can use computers to develop temporary functional platforms through the use of Gognos technical services to analyze and query user information, and then provide multi-functional services according to user needs. Under the big data environment, how to recommend favorite products for consumers according to their needs, and how to help consumers find their own products quickly and accurately? All these problems need to be solved by means of computer soft technology in commercial operation [6]. (As shown in Figure 3)

![The world's most valuable company](image)

**Figure 3.** Chart of companies with the highest market capitalization.

### 3.3. Practical application of computer software technology in information teaching

In recent years, information-based teaching technology has been continuously promoted in education and teaching. Compared with traditional teaching methods, information-based teaching technology can break away from the constraints of time and space. Students can obtain various learning resources to meet their own needs through online channels, and online teaching has developed rapidly. (As shown in Figure 4)
Figure 4. Computer Software Technology and Students' Learning.

Computer software technology helps students develop their interest in learning and effectively mobilize their subjective initiative in the information-based learning of students. For example, in the teaching mathematics and geometry related knowledge, by introducing computer soft technology, abstract geometry knowledge can be transformed concretely, making boring teaching classes more lively and interesting, and better mobilizing students’ enthusiasm for learning. For another example, the relevant questionnaire software can be introduced, so that students can be tested in class or after class by means of mobile media, and data analysis and comparison of students' tests can be carried out with the help of the software, so as to help students improve their understanding of their own answers. At the same time, teachers can form a more systematic and accurate grasp of students' answers, and then more effective targeted teaching can be carried out in combination with students' actual situation in teaching work.

4. Conclusion
All in all, under the huge data environment, computer software technology has grown vigorously and has been promoted and applied in many industries. Over the years, my country’s computer software technology has continuously developed and matured in data collection, data analysis, and data storage, which not only helps to reduce costs, improve work efficiency and quality, but also promotes better comprehensive benefits. Starting from the concept of computer information processing, this article explains the features of the background of huge data in the new era and the challenges brought by traditional computer information processing, and puts forward relevant opinions and suggestions to supply reference for same scientific assignments.

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