Application of Big Data Analysis under the Background of Internet

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Abstract: At present, data information processing plays a very important role in the network era. With the diversified development of data types, traditional information processing technology is gradually eliminated by the development of the era. Therefore, it is necessary to improve the existing processing technology to achieve the established goal of data processing on this basis. This paper takes computer big data analysis as the research background, and studies and elaborates its application in detail.

1. Introduction

With the advent of the information age, China's Internet technology has developed rapidly. Currently, people's increasing demand for data storage is no longer suitable for the current computing capacity of computers, and the input cost is constantly rising. Therefore, the emergence of cloud computing can just improve this situation. In the supercomputer cluster, the data transferred by cloud computing can be processed and calculated effectively, so as to build a brand new computer platform. The concept of cloud computing and big data application has become one of the current hot topics under the premise of being widely applied in all walks of life.

2. Big Data Analysis of its Own Advantages and Disadvantages

2.1. Its own Advantages

It has the function of visual analysis, which can display the data features and results visually and clearly. The key of big data analysis concept is data mining algorithm. The main content of this algorithm is diversified formats and types, which can effectively highlight the characteristics of the data itself, thus laying a solid foundation for the mining of higher value inside the data. Big data analysis contains a large number of application fields, and the most important part is predictive analysis. Based on the characteristics of big data, scientific modeling is effectively combined and new data is substituted into the big data model to effectively predict future data. Semantic engine is to analyze data actively and extract relevant information on the basis of sufficient science and technology.

2.2. Its Drawbacks

Big data itself has great development space and potential. People collect more and more data under the influence of some privacy parties, and the data is spread by social media, which will lead to the disclosure of some relevant details in People's Daily life. In the process of actual prediction, false information will inevitably exist in the huge collection of data, which will deviate from the established decision. In addition, data is also a double-edged sword for people, and their effects can be good or bad.

3. Application of Big Data Analysis in Environmental Monitoring Data

Due to the large amount of data in environmental monitoring databases, it is inevitable that there will be some low-quality data. In terms of data analysis and mining, low-quality data often leads to low-quality data analysis results. In order to obtain effective and high quality analysis results, it is necessary to preprocess the data to improve its quality.

3.1. Data Cleaning

Dirty data can also disrupt the process of data analysis and mining, making the mined knowledge unreliable. Therefore, it is very necessary to do some processing on the data to eliminate the dirty data, mainly including: fill in the missing values in the database. Noise data is smoothed. Delete the identified outliers. Correction of inconsistent data, etc.

When cleaning up the data, the first step is to conduct deviation monitoring to find out the noise and outliers among them. The second step is to perform data cleaning on the deviation data found, and carry out targeted processing on noise data, outliers and missing values. During the data cleansing process, most of the data can be corrected through automated data transformation.

3.2. Data Integration

The environmental monitoring data of Dongting lake basin comes from many different data sources. For this reason, it is necessary to integrate data from these different sources. In different databases, there are some attributes that cause inconsistencies and redundancy in the data due to identification issues. In addition, it may occur that some attributes are derived from other attributes. Thus, solving the problem of data integration redundancy is an important and common task in data analysis.

Correlation analysis is an effective method to solve the problem of data redundancy. For two given attributes, correlation analysis can be used to determine the degree of correlation between the two attributes and whether one attribute can contain the other. For nominal data, you can verify that the two attributes are related by using a chi-square test.

3.3. Data Reduction

When the data is selected from the database for analysis, the amount of data may be very large, so the analysis and mining of the data will take a long time, which leads to the low feasibility of data analysis and mining. Aiming at this situation, data reduction is an effective means to process data and make the data quantity become smaller. What's more, the technology can maintain some degree of data integrity.

3.4. Data Transformation

During data analysis, the units of measurement used by the data may have some impact. Therefore, in order to avoid the dependence on the selection of measurement units, the operation of data transformation is needed to make the data become more standardized and fall into a uniform and fixed interval of length. In data normalization, the original data can be transformed linearly using -score normalization.

4. Application of Big Data Analysis in Power Technology

With the rapid development of network and computer technology, office information has been developed in various fields. In order to better adapt to the current situation of social development, the power industry is also developing towards the direction of the era of big data. In the face of the increasing development of power grid and the increasing demand of power customers, power grid companies should constantly improve the production efficiency of power companies to ensure the safe and stable operation of power grid if they want to meet the demand of customers. Therefore, they can try to apply power big data analysis technology to power enterprises to realize the long-term and stable development of enterprises.

In power system, as a kind of power cloud with certain similarity to power system data statistics, cloud computing is also the most commonly used statistical method in power system. By applying cloud computing to power system, the validity and accuracy of data are greatly improved. This also requires power workers to attach importance to the application of cloud computing, and realize the effective integration of big data and cloud computing, which plays a positive role in ensuring the smooth operation of power system, realizing the effective processing of information, and driving the growth of economic benefits of enterprises.

4.1. Analysis System

The power big data analysis system based on cloud computing is based on the computer system and computing structure, and actively carries out the analysis and utilization of different data. The power information collected is highly integrated through cloud computing, and then integrated into the program upgrade to realize the program upgrade with more efficiency. Or through the study of power data, better computational analysis programs and software can be innovated to better regulate the power system and improve the intelligence level of the power system.

4.2. Analysis Techniques

Due to the influence of storage function, the internal data of power system cannot play its own value. Therefore, in the analysis and calculation of power big data, data scanning is often actively carried out and the corresponding information is extracted. However, this is not conducive to improving the processing efficiency or realizing the effective utilization of data resources. In power big data analysis system, technology, through the analysis of the reasonable use of cloud computing can be achieved for different data information query and processing, and on the basis of the data storage system optimization, can be classified to different data information effectively, thus greatly improve the data processing efficiency and processing quality.

4.3. Application in Power Big Data Analysis System of Smart Grid

Power systems are moving towards distributed control, which can facilitate the sharing of information through the use of cloud computing platforms. Since cloud computing can effectively analyse-data and ensure the smooth operation of power system, in the process of power system evaluation, data processing efficiency can be improved through the application of cloud computing analysis and processing data, which is in good line with the computing requirements of power big data. In addition, after the power system failure, due to the fault processing time is longer, so in the process of system recovery, the calculation method of the electric power system based on grid, using distributed computing model not only can realize the sharing of the information and also makes the computation efficiency is improved greatly, also greatly reduces the fault recovery time.

5. Application of Big Data Analysis in Communication Network Monitoring System

Current based on big data technology and Internet technology, the construction of communication network monitoring system, the main purpose is to perceive the user's network access, optimization of communication the whole process of data transmission, as far as possible to the network communication equipment alarm, fault monitoring business execution and management, and deal with the problems of equipment failure, network hidden danger in time. By starting from "alarm data flow" and conducting guidance planning and maintenance on the existing communication network, the optimization of alarm and fault of the network communication monitoring system can be realized.

The construction of communication network monitoring operation and maintenance system mainly relies on big data technology, cloud computing technology, intelligent technology of Internet of things, etc., to form the connection between network communication equipment and user terminal equipment, and monitor the fault alarm generated in data transmission. The whole operation and maintenance system of current communication network monitoring includes network visual monitoring platform, fault monitoring, electronic operation and maintenance, fault

management and other modules. Different modules are responsible for the collection, mining, statistical analysis and storage of network data resources, as shown in figure 1.Users can understand the fault warning, engineering warning and performance warning in the fault management system through the mobile client APP, and perform data analysis such as memory calculation, load balancing and incremental processing to divide different alarms into multiple levels.

In the face of major warning, major network communication failure, the fault management module will receive a large number of warning storm data in a short time. At this time, the fault management module will conduct real-time monitoring and statistical processing of the received alarm. Through the use of cloud computing data processing technology, multithreading and multi-process parallel processing of the alarm storm data will be carried out. At the same time, communication network supervisors should give priority to the analysis and processing of fault warning, conduct standardized analysis of non-important fault warning data, mine and analyze the correlation of warning data, and cache the processed fault warning.

6. Application of Big Data Analysis in Enterprise File Management

In the network environment, the enterprise human resources management put forward more strict requirements, enterprise archives management as the main work of the enterprise, must advance with The Times, to achieve the network environment of information management. As a scientific management mode, big data analysis can be reasonably applied to improve the quality and effect of management.

There are so many advantages of enterprise file management in the era of big data. In traditional file management, managers mainly record, check and confirm by hand. Without the support of computer technology, only through the computer statistics, it is difficult to ensure that the whole process of statistical errors and the most important point is that the accounting personnel information fraud may directly lead to the operation of the archives management system crisis. Compared with traditional file management, the use of information brings a good way for file management workers. Under the background of big data, enterprise file management is based on information. On the one hand, it ensures the transparency of the whole operation process, and on the other hand, it directly ensures the accuracy of file management statistics. It can reflect the whole file management situation of the company in a timely manner, and find problems in time, so as to provide a good data basis for decision makers. The data-oriented file management ensures the accuracy of the data, prevents related personnel from falsifying the data, and provides timely guidance for the operation of the company.

The development of information has brought good management ways to the archives managers. The ways for managers to obtain information have increased, the contacts between various departments of the enterprise have increased, and the information transmission has become more transparent. The archives management department can get the company's production data and production situation in the first time, adjust the strategic plan according to the company's operation in time, and improve the development of the whole company. Big data can also conduct data management and integration in a short time. For the development of the industry or the company, big data can provide a good file manage, mobilize the flow of information, so as to improve the benefits of the company.

In intelligent file management, managers can understand the basic situation of the company's operation through big data, and make timely adjustments to problems reflected in the data to ensure the normal operation of the company. Is one of the advantages of big data can achieve real-time monitoring of data, in the process of the operation of the company, if there was abnormal data or deviation is bigger, managers can through the analysis of the origin of understand the problem well, compared with traditional archives management statistics, intelligent archives management can make good use of data resources, realize the value of data, at the same time to put the money has gone to a detailed display of departments, convenient and improve the efficiency of company management.

Conclusion

In a word, with the continuous upgrading of computer technology, the communication technology has been well developed and advanced. As an important way of information exchange between different media, computer network has been widely applied in various industries and fields. However, communication is often inseparable from data. Therefore, cloud computing network technology and big data analysis play a very important role in the information industry.

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