Measures for the Application of Cloud Computing and Big Data Technology in Intelligent Information Technology of Medicine

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Abstract: Cloud computing and big data technology have become increasingly mature with the continuous progress of science and technology and the rapid development of information technology, which fully demonstrates their application value in different fields of society. And in some fields, it has changed people's way of life and work, facilitated people's lives and improved their work efficiency, and also played an important role in reducing time costs and saving resources. At this stage, cloud computing and big data technology are widely used in the medical field, which can effectively collect and integrate medical data and information, and provide relevant scientific basis for appointment registration, patient treatment, medical research and so on. For example, based on the high accuracy of cloud computing in remote monitoring and medical image analysis, as well as the ability of big data technology in the analysis of massive medical data, it is helpful to achieve the purpose of accurate medical diagnosis, and is of great significance to the communication between doctors and patients, the security of medical data and materials, and the reduction of medical operating costs, and promotes the healthy development of intelligent information technology of medicine.

Key words: cloud computing; big data technology; intelligent information technology of medicine; application; value; necessity; measures

1. Introduction

At present, cloud computing and big data technology are widely used in different fields of society, which play an important role in facilitating people's lives and improving work efficiency. Among them, the application of cloud computing and big data technology in intelligent information technology of medicine, through the collection and integration of patients' medical data information and the scientific construction of health medical cloud platform and database, such as the use of biochips and other related intelligent devices, can monitor different indicators of human body function in real time, and import them into the cloud platform and database at the same time, so that the collected and integrated medical data information can be shared, thus providing reference for related medical diagnosis.

2. Overview of Cloud Computing, Big Data Technology and Intelligent Information Technology of Medicine

2.1 Overview of cloud computing

Cloud computing is based on the Internet, which analyzes and processes the collected huge amount of data

information through the combination and application of various disconnected computers, and it belongs to the distributed computing technology. The practical application of cloud computing is to scientifically calculate and analyze the relevant data under the premise of normal operation and standard service of the Internet, so as to achieve the purpose of optimization service.

2.2 Overview of big data technology

Big data is a collection of huge amounts of data, which has the characteristics of massive, real and diverse. Big data technology is a technical form of mining valuable data information through integration, analysis and processing, by applying advanced computing methods and fast data computing capabilities. Its specific applications are mainly in data integration, data analysis and storage. At this stage, the data information in various fields of society is growing very fast. In order to promote the healthy development of different fields, it is necessary to scientifically process the relevant data information through the rational application of big data technology, so as to provide scientific data information as a reference for the development of related fields.

2.3 Overview of intelligent information technology of medicine

Intelligent information technology of medicine mainly realizes the intelligent management of healthcare, rehabilitation and payment through the rational application of advanced technologies, including cloud computing, big data technology and Internet of Things. It can provide support for medical data information sharing and medical scientific research, and has obvious service advantages, such as intelligence, informatization, sharing and prevention. Among them, smart hospitals, regional health systems and family health systems are important components of intelligent information technology of medicine. In addition, the normal operation of smart medical system is helpful to reduce medical costs and medical risks, and plays an important role in promoting the healthy development of medical and healthcare services.

3. The Value and Necessity of the Application of Cloud Computing and Big Data Technology in Intelligent Information Technology of Medicine

3.1 Application value

The author believes that it is mainly manifested in:

3.1.1 The application value of cloud computing in intelligent information technology of medicine

The application of cloud computing in intelligent information technology of medicine can ensure relevant medical units to share effective data information through its superior data analysis ability, processing ability and storage ability, so as to realize remote diagnosis, image analysis, medical innovation and reduce medical costs, thus providing support for medical staff's diagnosis and treatment, medical unit management and medical research.

3.1.2 The application value of big data technology in intelligent information technology of medicine

With its fast and accurate data mining, analysis and processing capabilities, big data technology can find the changing rules of medical data information, provide a basis for medical staff to make scientific and reasonable treatment plans, and also play an important role in disease prevention, health management and treatment safety prevention.

3.2 Necessity of application

At this stage, cloud computing and big data technology are widely used in the operation of intelligent information technology of medicine. Mainly due to the following reasons:

3.2.1 Meet the needs of the times

Informatization is the development trend of the times. In recent years, information technology has developed rapidly. Cloud computing and big data technology are one of the important forms of information technology, so their application in intelligent information technology of medicine meets the needs of the times.

3.2.2 Provide support for medical research

At present, the data information in the process of medical service is increasing and complicated, and the collection is very cumbersome and costly, which seriously affects the effectiveness of medical research. The full application of cloud computing and big data technology can efficiently collect, process, analyze, store and share data information generated in the process of medical services, thus providing support for medical research.

3.2.3 Provide help for scientific allocation of medical service resources

The allocation of medical service resources belongs to data analysis and processing, which mainly involves statistics and analysis of data information related to medical service resources, and takes the analysis results as the theoretical basis in the allocation of medical service resources. When traditional methods are used to allocate medical service resources, the accuracy and timeliness of relevant data statistics are not guaranteed, which leads to the unreasonable allocation of medical service resources. The application of big data and cloud computing technology can facilitate the scientific allocation of medical service resources on the basis of combining the actual needs of the people, which can not only meet the medical service needs of the people, but also improve the medical service capacity.

4 Application Measures of Cloud Computing and Big Data Technology in Intelligent Information Technology of Medicine

4.1 Realize the cloud access of medical and health information system

The premise of fully applying cloud computing and big data technology to smart medical care is to realize cloud access to medical and health information systems based on the basic characteristics of information technology and the actual needs of medical services, so as to ensure the value of cloud access to medical and health information systems. Specifically, it is through the practical combination of mobile cloud and medical services to scientifically formulate system solutions, such as telemedicine, maternal and child health care and imaging, and at the same time, it needs to be continuously improved in combination with norms and standards, including medical insurance cloud platform, etc., to realize the value of cloud access of medical and health information systems. In addition, in order to ensure the safe application of the medical and health data system, it is also necessary to do a good job of safety evaluation and backup data information.

4.2 Scientific construction of regional medical and health management system

Regional medical and health management system is the key content of smart medical care. Therefore, it is necessary to import the personal and family medical information in the region into the national medical and health service system on the basis of unified standards, so as to ensure that the medical and health information in the region can be shared, and the difficulty for people to see a doctor can be alleviated. Through the reasonable application of cloud computing and big data technology, we can comprehensively collect medical and health information in the region, and at the same time, combined with the sharing performance of smart medical system, the regional medical and health management system can be scientifically constructed to ensure the integrated application of medical and health data. And it is necessary to apply cloud computing and big data technology to solve the single phenomenon of information in smart medical system in order to improve the management ability of hospitals and health departments.

4.3 Strengthen the storage and processing of medical data and information

Strengthening the storage and processing of medical data information is helpful to fully display the functions of smart medical system. At present, due to the characteristics of large amount of medical data information, lack of unified standards for storage, difficulty in processing and high security risks, in order to achieve the purpose of reliable operation of smart medical system, database technology in cloud computing and big data technology must be fully applied to give

full play to its advantages such as large storage capacity, fast data processing efficiency and strong security performance, so that the operation function of smart medical system can be reasonably applied. For example, the application of cloud computing and big data technology in the storage and processing of image data information helps medical staff to quickly understand the image data information and illness of patients with intelligent facilities, so as to ensure that patients can get timely medical treatment and reduce misdiagnosis.

4.4 Optimize the patient's medical treatment and the prediction of virus transmission

During the operation of the smart medical system, through the reasonable application of cloud computing and big data technology, the patient's medical treatment process can be optimized according to the patient's condition, such as making an online appointment and choosing a suitable hospital to ensure that patients can get medical treatment in time. And through the application of related cloud computing and big data technology in the smart medical system, patients' medical records can be immediately known through smart medical facilities, and remote diagnosis and treatment can be realized. In addition, because some viruses spread rapidly with the change of environment, in order to effectively curb their large-scale outbreaks, it is necessary to fully apply cloud computing and big data technology to collect relevant data related to viruses, and then analyze and process them, and make a scientific prediction of virus spread, thus providing a basis for relevant decisions to curb virus spread.

5. Conclusion

To sum up, with the continuous progress of science and technology and the rapid development of information technology, cloud computing and big data technology have become increasingly mature, and have been fully applied in all fields of society, especially in the medical field. Therefore, in order to give full play to its application value, starting from the related overviews of cloud computing technology, big data technology and intelligent information technology of medicine, this paper briefly describes the value and necessity of the application of cloud computing and big data technology in intelligent information technology of medicine, and puts forward relevant measures, aiming at improving the medical service capacity and promoting the healthy development of medical career.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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