

Research on Artificial Intelligence Network Security Technology Under the Background of Big Data

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Abstract: With the rapid development of network technology, the requirements of artificial intelligence network technology under the background of big data are higher and higher, and various kinds of leakage emerge in endlessly. Therefore, the research of artificial intelligence network security technology under the background of big data is proposed. Based on the theory of computer network security, this paper discusses the defects of big data at present, and creates an artificial intelligence network security technology method. The results show that this method has an important reference value for network security.

Keywords: Big data; Network security; Artificial intelligence technology

1. Introduction

The reliability of computer network is related to national security and social economic development, so it is very important to ensure the reliable and safe operation of computer network. The planning and design of computer network cannot be separated from the research of computer network reliability. The optimization design of computer network reliability can ensure the normal communication ability of computer network and the connectivity and security of network [1-3].

With the comprehensive popularization of computer network technology, people will also put forward higher requirements for its practicability. In this case, it needs the effective participation of artificial intelligence technology to meet the high requirements of people. Because artificial intelligence technology is a kind of comprehensive application technology which can imitate human thinking and behavior, instead of artificial to complete some difficult and complicated work, it has strong learning ability. In the computer network, artificial intelligence technology can promote the computer system to complete some difficult data reasoning and accounting work, and then help people to improve work efficiency faster So that it can save a lot of network search time and improve the quality of life. Thus, in the computer network technology, the development and application of artificial intelligence has a very prominent practical advantage [4-5].

Nowadays, computer network technology has become an indispensable part of people's daily life. With the continuous expansion of its application range, higher requirements will be put forward for its network security. To achieve this goal, we need the strong support of artificial

intelligence technology, so as to better improve the practicability of computer network technology, so that it can help people deal with it Some difficult and complicated problems. At the same time, it can also realize the intelligent management of computer network, make the storage of big data more secure and reliable, and then create a good network environment for people to better exchange information. Therefore, for the computer network technology, the development and application of artificial intelligence has a very prominent advantage in network management.

2. Computer Network Communication Security Theory

Under the background of network, the security of computer network communication is not controlled or influenced by a single factor, and the realization of computer network communication security must rely on the joint action of technology, system, software and management. In short, the computer network system is a whole connected with each other. The computer network communication system contains huge user private information, network information, service items of different network merchants, etc., thus forming a huge public database. Therefore, in order to ensure the security of computer network communication, we must ensure the security and reliability of its internal connection components, so as to develop a perfect computer network communication security prevention scheme, and then ensure the normal and safe operation of computer network system.

3. Problems of Network Information Security in the Era of Big Data

3.1. Too many phishing websites

Although in the era of big data, people's lives are very convenient and save a lot of time and money, but there are still many phishing websites, which have an impact on people's lives and psychology. The forms of these phishing websites are various, which to a certain extent affect the judgment ability of users. At the same time, they will disguise as some very official websites, which seems to be confusing, leading many users to think it is safe, thus revealing their privacy information. Once the privacy is known by these phishing websites, it will have a certain impact on the property security of users, which will make many users have a sense of exclusion and mistrust of the network in their daily life. It also has a negative impact on network security.

3.2. Network user operation problems

Nowadays, the popularity of the Internet in China is very comprehensive, and it has infiltrated into every aspect and place of life invisibly, which also leads to the different cognition of network users to the problems of network security. In many network security problems, a large part is related to the improper operation of network users themselves. Now, with the rise of online shopping, many people have changed the original way of shopping, and now there are too many game software, so many users have installed online games in their mobile phones. The existence of these things makes some network users with insufficient security awareness face the problem of information security. Some users' awareness of prevention is too low, sometimes they will easily reveal their privacy information to the insecure website, thus suffering huge losses.

3.3. Safety problems of network system itself and insufficient safety awareness of Internet users

Some network systems will be vulnerable at any time, so that hackers or viruses can take advantage of it. Most network security problems are related to the security of the network system itself. The vulnerability of the system may be very hidden, which cannot be detected and repaired. Therefore, it is necessary to maintain the network system frequently. At the same time, it is also necessary to improve its own computer network technology, repair the hidden loopholes, so that hackers and network viruses have nowhere to start. Another problem is that Internet users are not aware of security, and they can easily record their passwords, accounts and personal privacy information on many software. In today's era, there will be a jump link between many network information. Once clicked in, it is equivalent to falling into a trap. Many users do not understand the security problems, so the link is protected by mistake, so they will be attacked by virus in the process of surfing the Internet. Many software password protection measures do not do well, so the phe-

nomenon of stealing numbers is common, and hackers often use this to attack the user's network system to steal property or personal information.

4. Prevention Methods of Computer Network Communication Security under the Background of Big Data Network

Although computer network technology has covered all aspects of people's daily production and life, but because of the past computer network security management system is not perfect, there are many bad user experience. Based on this, in order to ensure the order and security of the network operating environment, it is necessary to use artificial intelligence technology to comprehensively purify the existing network environment, and effectively deal with the existing network security problems. Through the intervention of artificial intelligence technology, the firewall in the current computer network The system has gradually realized the intelligent management, which can use strong memory function, statistical function and probability method to process and analyze the massive operation data quickly, so as to find the problem of virus binding or the existence of malicious website in the first time, and filter these phenomena in time, so as to ensure the storage security of data information in all aspects, To create a more secure and reliable network environment for users.

4.1. Improve computer system performance

At the beginning of computer system design, designers should consider all aspects and details of the system thoroughly. In order to avoid network viruses and hackers' invasion, designers should design security protection function in time, improve computer security vulnerability scanning function, intercept hackers and viruses in time and eliminate them before virus and hackers' invasion. In order to avoid the hidden danger of computer virus invasion and infection, the functions of file processing and file deletion and cleaning can be added in the design process, so as to avoid the complete deletion and elimination of garbage software and files.

4.2. Application of encryption protection technology

After computer network virus or hacker attack, user data information and private information often leak. In this regard, we should take active measures to protect all kinds of passwords and login account information of the computer system, and set up protection functions for the passwords of social software and financial system software to avoid being stolen by others. At the same time, when users use wechat, QQ and other network social software, they should set the password as non repetitive and complex numbers or letters as much as possible to avoid hackers' decoding. In addition, when logging in

computer software, in order to keep the last defense line of password, protection channels such as binding mobile phones and binding question reply can also be added to ensure that the user's personal information is not stolen, the login password of software and network platform can be changed regularly, and the security prevention and control ability of computer network system itself can be improved.

4.3. Application firewall technology

In order to effectively ensure the security of computer network communication environment, the application of firewall technology is very important. As a powerful barrier for organizations to illegally browse, visit or steal users' personal information, the application of firewall technology can effectively block all strangers' access to users' personal information pages. Firewall technology can not only effectively block the browsing of personal information by strangers, but also remind users of strangers' visiting information in time and intercept it at the first time. At the same time, firewall technology can also exist on different hosts and ports at the same time, so as to fully realize the security protection of computer internal network system. In addition, once the data information existing in the computer network system is accessed by strangers, the firewall technology software can successfully block its behavior by virtue of its identity determination and automatic attack function, and realize the effective protection of the computer user data information.

4.4. Strengthen network security education

In terms of computer network users themselves, it is also necessary to ensure the safety of computer network communication. In order to effectively avoid the occurrence of computer network communication security accidents, computer users and network managers should improve their knowledge level of network security prevention, computer operation security standards, computer

virus protection and so on. For the computer network maintenance personnel, it is necessary to effectively establish the computer network communication security prevention system, strengthen the supervision of computer network communication security, avoid irrelevant personnel accessing and stealing personal information of computer users, and create a healthy and safe computer network system environment.

5. Acknowledgment

In conclusion, the emergence of artificial intelligence technology not only greatly improves the practicability and security of computer network technology, but also creates good conditions for the improvement of people's quality of life and work efficiency. Therefore, in the application of computer network, we must pay attention to the effective application of artificial intelligence technology, and put it into every link of computer network application as far as possible, so as to improve the intelligence and security of computer network technology, so as to provide people with better network services.

References

- [1] Ma Guangming. Security issues and prevention strategies of computer network communication. *Communication World*. 2016, (02), 82.
- [2] Chen Yulin, Wang Tongliang, Geng Heyao. Computer network communication security problems and countermeasures. *Communication World*. 2016, (10), 106.
- [3] Jia Jiangxi, Liang Guanghong. Discussion on computer network information security in the era of big data. *Computer Products and Circulation*. 2019, (11), 52.
- [4] Sun Yanling. Discussion on computer network information security in the context of big data. *Network Security Technology and Application*. 2019, (10), 75-77.
- [5] Ruan Gaoxiang. Analysis of computer network information security in the context of big data. *Computer Products and Circulation*. 2019, (11), 38.