Application of Artificial Intelligence in Computer Network under the Background of Big Data

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Abstract: With the continuous development of China's social economy and science and technology, China's computer technology has also been greatly improved. Especially in the context of China's big data era, the application of artificial intelligence in computer network technology has brought great convenience to our daily life and production. With the continuous development and innovation of computer information technology, it has been widely used in many social fields. Computer networks have penetrated into all aspects of people's lives, and the security of computer networks has gradually been paid attention to. Based on the study of computer related knowledge and data query, it is found that the development of artificial intelligence is mainly based on modern communication technology and computer technology. Based on the intelligent development demand of computer network technology in the era of big data, this paper analyzes the basic characteristics of big data, analyzes the advantages of artificial intelligence application, and focuses on the specific application of artificial intelligence in computer network technology in the era of big data.

1. Introduction

With the wide popularization of the Internet and the continuous deepening of network application, people have become accustomed to using the services provided by the network to participate in various network activities, especially e-government, e-commerce, etc. Artificial intelligence has been widely used in people's lives. No matter in work, study or entertainment S, it cannot be separated from artificial intelligence [1]. The continuous development and innovation of computer information technology have been widely applied to many social fields. Computer networks have penetrated into all aspects of people's lives, and the security of computer networks has gradually received attention [2]. With the increasing coverage of computer Internet technology, the scope of Internet application is gradually expanding, involving many fields of our life [3]. Sensitive information stored and processed on the network is increasing day by day, so network security management has become the primary problem to be solved in the computer network system. In order to better meet the needs of our daily life and production, the combination of artificial intelligence and computer technology can effectively improve the processing efficiency of information data [4]. The emergence and application of artificial intelligence technology has not only enriched people's lives, but also improved the efficiency of work, which has led to significant developments in more new technology fields.

Artificial intelligence technology has the ability to deal with unknown problems. Artificial intelligence technology generally uses the inference method of fuzzy logic and does not need to describe the data model very accurately. There is a large amount of fuzzy information in computer networks. It is uncertain and unclear about this information, and it is difficult to process this information [5]. Compared with traditional network governance methods, artificial intelligence has obvious advantages, because it not only absorbs traditional network governance methods and approaches, but also has its own obvious advantages [6]. Based on the study of computer-related knowledge and information query, it is found that the development of artificial intelligence is mainly based on modern communication technology and computer technology. The ways of attacking computer networks are constantly complicated, and private information such as

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enterprises and individuals is easy to be leaked. It is urgent to model computer network security [7]. Nowadays, network security is in a backward and passive situation from technology to management. Therefore, it is particularly important to study computer network security technology and explore the causes of network security [8]. Based on the needs of intelligent development of computer network technology in the era of big data, this article analyzes the basic characteristics of big data, analyzes the superiority of artificial intelligence applications, and focuses on the specific application of artificial intelligence in computer network technology in the era of big data.

2. The Necessity of Applying Artificial Intelligence to Computer Network Technology

The evaluation of computer network security system is to study and analyze the security system when it is in use, and to prevent or prevent infiltration changes of related systems by detecting related software. After computers are connected to the Internet, on the one hand, they can transfer and share data and information; on the other hand, they are also faced with the invasion of viruses and Trojan horses. Therefore, network security is of vital importance. The research on computer security issues has gone deep into almost all fields of computer science theory and engineering. Software security failure analysis has different characteristics in software design, testing and use. In the early days of computer production, because network data does not have continuity and regularity, it is very difficult for computers to analyze and determine the authenticity of data. Therefore, it is necessary to make computer network technology intelligent [9]. The main reason of network security problem is that in the early stage of computer network system design, people pay more attention to the research of network practicability than network security problem. When the system is intruded, the user can not use the information normally, and can not operate the system, and can only allow the virus to invade their own private information, even in the later use process may be intruded again.

After entering the new era, the development of computer technology is particularly rapid. At present, the world pays great attention to the problems of network information security. In the application of network management system, network monitoring and network control are paid great attention. With the increasing use of computers, people put forward higher standards in the network security management, which improves the security of information. For uncertain information, artificial intelligence technology can quickly solve, track dynamically changing information and enable users to obtain information processed by technology. The internal network security model is based on the fact that all users are untrustworthy. The focus is only on all users of the external network, and there are also internal network users that cause information security. According to the analysis of different phases of the network to detect the security status of its information system engineering and software system, this is an active defense model, which will regularly detect, find and solve problems of computer network systems.

3. Application of Artificial Intelligence in Computer Network Technology in Big Data Era

3.1 Application in Computer Network Security

Due to the interconnection of networks, the wide-area nature of network distribution, the sharing of information, the openness of network system and the commonality of channels, the network has many serious vulnerabilities, that is, the network security has vulnerabilities. Artificial intelligence has good effects in intelligent firewall, intelligent anti-spam and intrusion detection. The security check efficiency of the intelligent firewall is better than that of the traditional firewall, which can significantly deal with the problem of denial of service. Information system developers have also developed different methods to analyze attack data, find out the structured and reusable patterns, and provide guidance for system security analysis and design.

As the content of computer network security design is more and more extensive, it is basically related to all aspects of computer engineering and computer network science. In computer network security, intrusion detection is very critical, and it is very critical to ensure network security.

Intrusion detection will affect the integrity, security and confidentiality of computer data resources. Computer network logic mainly designs the integrity and effectiveness of information transmission process. The main characteristic of computer network is that it can realize resource sharing. It is necessary to use firewall, data encryption model and other software protection means to protect information. For the intrusion detection of fuzzy identification, expert and artificial neural network, artificial intelligence has a good effect. Artificial intelligence technology has a good effect on the application of computer network security in anti spam. There are many security risks in the computer network. The malicious attacks of lawbreakers will cause the system paralysis and information loss of the computer network, and cause huge losses to enterprises and countries.

3.2 Application of Gis in Computer Network System Management and Evaluation

The computer network security information system protects the overall network operation through physical and logical aspects, but there are many factors that threaten its information security in the computer network. While enjoying the convenience brought to us by the network, we have to face the problem of network security. If computer network technology wants to develop more abundant functions and services, it needs to be well connected with artificial intelligence. Therefore, computer network technology should continuously develop artificial intelligence technology in its development. In information system management, the application of expert decision-making and support methods based on artificial intelligence has significant effects. The expert system in the artificial intelligence system can absorb and summarize the experience and knowledge of experts independently, and continuously input these contents into the system [10]. Artificial intelligence technology can play an important role in computer network security management. Its problem-solving technology and expert knowledge base can make computer network comprehensive management. In the design stage, experimental stage and use stage of a software, there must be corresponding systems and measures to ensure network security. Now, most computer experts and scholars are studying the methods that can find the attack path and change the system information.

4. Conclusion

Artificial intelligence embodies human's superb wisdom and skillful practical ability. At the same time, when artificial intelligence is scientifically added to computer network technology, it must be ensured that it is accurately added to people, so that they can be perfectly integrated into an indivisible and jointly developed whole. Computer network technology is also developing rapidly due to the increasing demand. The problem of network security cannot be ignored. Only by effectively integrating the two can the development of artificial intelligence technology in the field of computer network technology be more profound. The application of artificial intelligence technology in computer network technology is becoming more and more popular, which reflects the future of artificial intelligence technology in the development. Under continuous in-depth analysis, artificial intelligence technology will be used in more fields. In order to ensure the security and privacy of user information on the network, it is necessary to block the illegal invasion of malicious elements, improve the technical level of network staff, and improve the computer network environment. While enjoying the convenience brought by the network, we must also take precautions against its security problems, which requires us to fully enhance our awareness of network prevention and make a reasonable use of network resources.

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