

Application Analysis of Computer Network Technology Based on Artificial Intelligence

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Abstract: In recent years, the world economy has flourished and science and technology have been making continuous progress. Among them, artificial intelligence as the typical representative of information technology has been unprecedented development, and gradually applied to a variety of industries. In the process of information technology reform and innovation, people have gradually improved the requirements for computer network technology. The basic and simple technical functions can no longer meet the specific needs of users. Therefore, in order to meet the needs of users, computer network technology makes full use of the technical advantages and characteristics of artificial intelligence to effectively improve the level of computer network technology. This paper first introduces artificial intelligence technology and its current development status, and further analyzes the advantages of artificial intelligence technology. In addition, based on the problems of computer network technology, this paper deeply analyses the application of artificial intelligence in computer network technology.

Introduction

The development of artificial intelligence technology has promoted the development and construction of various industries, but also brought great changes to people's lives. In recent years, with the continuous development of artificial intelligence technology, some achievements have been made. In the process of development, it is the application of computer network technology that can give full play to the important role of artificial intelligence technology.

Artificial Intelligence and Its Development Status

Artificial intelligence is to use computers and programming languages to simulate the way people think and effectively deal with complex and tedious data problems that are difficult to solve by human beings. In the process of programming, the computer will simulate not only the human brain thinking, but also the human senses and thinking. Through simulation, computer can improve the speed and efficiency of dealing with problems to a certain extent, so as to improve the quality of work. The development of computer technology is the basis of the development of artificial intelligence technology. Artificial intelligence based on the development of computer is superior to computer in any aspect.

Artificial intelligence technology has brought the whole society into a new stage. At present, artificial intelligence has been applied to various fields, including pattern recognition, robot production, artificial neural network and expert system. In different fields, artificial intelligence has different application value.

First of all, pattern recognition is a very special way of recognition. It can be recognized and classified according to the characteristics of the research object, and it is one of the important application fields of the computer. This kind of recognition can give the computer the corresponding perceptual ability. Fingerprint, image, character and voice recognition we usually see are all recognized by this pattern.

Secondly, the emergence and development of robots is generally regarded as the top priority of research in the field of artificial intelligence, because it has changed many aspects of social development. Let the robot effectively identify some complex working environment, and then automatically perform the operation according to the instructions given by human beings in advance. The research and production of robot will increase the environmental adaptability of robot and increase the practical application range of robot.

Artificial neural network is also one of the important application fields of artificial intelligence. It can be said that artificial intelligence will tend to develop in the direction of artificial neural network in the future. Artificial neural network is a kind of network structure formed by the connection of multiple neurons. It has strong autonomous learning ability, information processing ability and analysis ability, and can effectively solve complex and tedious computer problems.

The last one is expert system. The continuous development and improvement of artificial intelligence can not be separated from the research of various professionals. At present, experts' research on artificial intelligence is mainly based on theoretical knowledge. In the process of practical application, artificial intelligence mainly relies on computer system. Therefore, when encountered problems, only experts or professional technical personnel can fully solve them. Therefore, the research of expert system can improve the processing level of artificial intelligence.

The Advantages of Artificial Intelligence Technology

Information reasoning and management ability. This technology can improve and optimize the management of database systems through the protocol of computer network management, and can effectively protect the security of data information. At present, the information management of all industries has applied the computer network technology. This technology can use the computer network management protocol to do a good job in the management of database system and effectively protect data information. And this kind of effective application can effectively increase the management capability of the network information system and effectively control the information.

Information processing and collaboration capabilities. Using artificial intelligence can solve some unknown problems. However, artificial intelligence applies fuzzy logic in the reasoning and diagnosis of information, and no accurate data model is applied. Therefore, a lot of information on the computer network is fuzzy and uncertain, and the computer system is difficult to deal with effectively. These ambiguous information can be effectively processed. In addition, artificial intelligence has the ability to cooperate, no matter which aspect is adjusted, artificial intelligence can cooperate very well.

Learning ability. As we know that there are a plenty of information resources in the computer database system. These information resources conceal huge information values. In order to distinguish the information level and avoid the value influence between the different levels of information, artificial intelligence needs to deeply understand the low-level information. In the process of knowing the low-level information, the information of higher value can be learned through the characteristics of the information. In addition, artificial intelligence can also learn the nonlinear solution ability of human beings and enhance the nonlinear ability of artificial intelligence.

Reduce resource consumption and save calculation cost. When artificial intelligence parses the network information, the control algorithm is mainly used. This algorithm requires less calculation cost and can complete the parsing task efficiently. The algorithm can effectively control the flow in the calculation process and reduce the resource consumption, thereby saving the calculation cost.

The Main Existing Problems

Network security problem. In the computer network system, there are a lot of data information, which not only meets the information needs of people, but also poses a threat to people's information security. Some criminals will take advantage of loopholes in computer network technology to steal user information and maliciously attack computers. This series of behaviors has caused great losses to

users. Therefore, in order to reduce the occurrence of network security accidents, computer network technology needs to improve the ability of sensitive monitoring and rapid protection. However, the current computer network technology is limited, making it difficult to improve these capabilities. Computer network technology using artificial intelligence can form a highly intelligent regulatory system, realizing the effective monitoring of the whole computer network, taking timely measures to solve the violations of network security.

Network management problems. There are a large number of information resources stored in the network with a variety of types. It is difficult for the computer to explore the law from the massive data, and the computer can only process it through simple logic. It can not judge the authenticity and accuracy of the data information, which makes it more difficult to manage the data information. At the same time, it also seriously affects the normal development of network management. However, the application of artificial intelligence technology in computer network technology can effectively strengthen network monitoring, increase network management, and effectively solve the network management problems.

The Applications

Network security. Artificial intelligence technology has a strong technical advantage. It is applied to computer network technology, which gives full play to the reasoning ability, cooperation ability and nonlinear processing ability of artificial intelligence, and realizes the network security management.

First of all, artificial intelligence is mainly used in data recognition and data processing when building intelligent firewall system. This intelligent firewall system is more effective than the previous defense software, and can effectively shorten the time consumed by the computer in the process of retrieval, matching and verification. At the same time, it can shorten the time consumed by computer in restricting access, solve the network security problem which is difficult to be solved by ordinary defense software, reduce the possibility of hacker attack and virus intrusion, and improve the working efficiency of computer network security in prevention and processing.

Secondly, intelligent intrusion detection system is the core and key of firewall technology. The system can classify and screen the obtained information, and then organize it into a detailed report. This application is the basic premise of realizing intelligent intrusion detection system. Through this technology, the recognition ability and antivirus ability of intrusion detection system can be strengthened.

Finally, let's talk about the intelligent mail system. Normally, we see a wide range of spam in our mail, which seriously affects the normal management of the information. However, through this technology, an intelligent system against spam can be constructed. Through internal scanning, spam information is shielded, which not only improves the security of user information, but also ensures the security of mailbox.

Information collection and analysis. Computer network technology has the advantage of analyzing and processing data and information, and has been widely used in information management in various industries. Computer network technology is not affected by data type in the process of data processing. However, artificial intelligence technology also has the function of data collection, analysis and processing. When artificial intelligence technology is applied to computer network technology, it can increase the data processing ability of computer network technology, improve the intensity of data mining, and thus improve the level of computer data processing. The application of artificial intelligence can also simplify the processing of complex data, thereby reducing the data processing pressure of the computer.

Network resource sharing. In computer network technology, it can give full play to the technical advantages of artificial intelligence. In computer network, it is necessary to provide information resource service to realize information sharing in order to improve the utilization of data information. However, in the actual sharing process of network resources, it is often affected by the accuracy of information, which leads to the low quality of network resources, which affects the efficiency of the

utilization of computer network resources. However, the application of artificial intelligence can solve the problem of network resource sharing. In the past, computer network technology used point-to-point sharing, which can directly provide network information to users. The user needs to search for resources, and after collecting relevant information, the user can directly download and obtain the relevant information. After the application of artificial intelligence, it can promote this sharing method, thus improving the sharing rate of network resources.

Hardware protection. This application can also realize hardware protection. In the process of hardware protection, the running information of the hardware equipment of the system is effectively recorded by using artificial intelligence technology, and the running quality and effect of the hardware equipment are analyzed according to the running state. According to the running data of the hardware device and the set standard value, we can judge whether there is a problem in the hardware, so as to realize the protection of the hardware device. In addition, Artificial neural network can not only realize multi-input and multi-output, but also analyze the operation of all kinds of hardware equipment in the system. It can construct the control center and use the instructions issued by it to effectively control the hardware equipment and realize the protection of the hardware equipment.

Network management and system evaluation. The efficient application of artificial intelligence can help computers more effectively implement network management and system application evaluation. So as to really improve the level of computer network technology. At the same time, artificial intelligence technology can also help build and optimize network systems, improve the scientific nature of the computer network system, so that the computer system can work accurately. In addition, artificial intelligence can also detect the computer system in real time. When the computer is found to have problems or hidden dangers, it will send a prompt to remind the user to take timely measures to maintain and update, which improves the security performance of the computer system and reduces a lot of management problems.

Summary

To sum up, artificial intelligence has strong reasoning ability, management information ability, learning ability, information processing ability and the ability to deal with nonlinear. It is these powerful technical characteristics and requirements that provide the fertile soil and development opportunities for the development of artificial intelligence technology to a certain extent. Recently, with the wide application of computer network technology, it has brought great convenience to people's life and work. With the increase of the amount of data information and the limited technology of computer network, there are great problems in computer network security and network management. Therefore, we believe that the widespread application of artificial intelligence in computer network technology can help companies and society improve the development of computer network technology, and for themselves, it can also give full play to the important guiding role of artificial intelligence in the new environment and help improve social networks Security management capabilities further ensure the rapid development of computer network security technology.

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