Application of Ai Technology in Computer Network under Big Data Environment

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ABSTRACT. *With the continuous growth of national economy and the continuous improvement of science and technology, the innovation and development in the field of artificial intelligence in China has made a qualitative leap. As the most important part of modern computer network operation and management, the reasonable application of artificial intelligence technology is an indispensable key content, which is directly related to the safety and stability of computer network operation, effectively meets the scientific and efficient processing target of computer network massive data information, and promotes the stable and sustainable development of the whole information society. This paper will further analyze and discuss the application of artificial intelligence in computer network under the background of big data.*

KEYWORDS: Big data; Artificial intelligence; Computer network

1. Introduction

At present, it is a big data era. The construction and development of China's computer industry should keep pace with the times and keep up with the pace of the times. Computer practitioners should innovate their own working concepts and fully realize the value and role of artificial intelligence technology in the application of computer network control management. Based on the application of artificial intelligence technology, it can realize the scientific control and management of computer network operation, improve the processing and analysis level of various network data information to the greatest extent, and meet the needs of the development of information society. As a new product of the development of information technology in the era of big data, artificial intelligence, by organically combining advanced science and technology with human way of thinking and behavior, can bring various conveniences to people's work and life, help computer users solve various technical problems, and promote the overall improvement of computer level in China.

2. Overview of Big Data and Artificial Intelligence

2.1 Big Data Meaning Analysis

From the current development situation, computer network technology has already penetrated into various industries and played an important role in them. Affected by this, no matter in production or life, the types and quantity of information needed to be processed and analyzed are increasing day by day, covering a large number of industries. Big data technology is born from this, a variety of types and quantities are huge Large data set types are not only large-scale but also have high authenticity. Through the system mining, analysis and integration of relevant data information in different fields, it can bring effective inspiration and help to the whole industry and enterprises. For big data, the data information has a high update speed, generally covering a large number of data sources. Due to the backward way of data information processing in the past, it is unable to achieve efficient and accurate data processing standards, especially when the format, source and quantity of data are increasing, and at the same time, it is threatened by computer network security, so it is necessary to ensure the security of big data technology in the process of application[1].

2.2 Connotation and Application Advantages of Artificial Intelligence

As for artificial intelligence, it mainly refers to the replacement of artificial control by machines with artificial intelligence functions in the process of carrying out work with high risks and technologies, so as to not only improve the overall work efficiency, but also ensure the personal safety of relevant workers. In the process of using artificial intelligence, the operator sends out corresponding control instructions to make the relevant mechanical equipment imitate the artificial behavior and form normal operation. Compared with the traditional technology, the operation mode of artificial intelligence has certain differences. When artificial intelligence gradually develops into one of the important technologies of computer network, many problems and deficiencies existing at present can be effectively dealt with. Artificial intelligence has many advantages in the application of computer network.

(1) Make the Network More Stable

From the perspective of the application of computer network technology, it can achieve a large number of data information exchange processing. On the one hand, it can play the role of dynamic transmission of data information. On the other hand, with the help of the function and mode of artificial intelligence, it can complete the upgrade of the system and show some flexibility, which is conducive to scientific analysis and solve those difficult to define data[2].

(2) Improve the Corresponding Reasoning Level

Through the use of artificial intelligence, it can realize the extraction and

processing of data information from the bottom information, and apply the processed data information to the computer network. If there are related problems, it can be processed by the use of artificial intelligence, at the same time, it can realize the accurate search by the method of building database, and implement it in close combination with the specific control work[3].

(3)The Application of Artificial Intelligence Based on Big Data is More Efficient and Scientific

Because big data covers a large number of data types, the corresponding scale is also large, and the total capacity is more than 10TB. Combined with its good data authenticity and fast update speed, the AI application can ensure the safety and stability of operation, and is no longer interfered by the storage. In addition, the former disposal mode can not meet the current standard, relying on the effective integration of computer network technology and artificial intelligence to improve the efficiency of data information processing[4].

3. The Advantage of Artificial Intelligence in Computer Network Technology in the Era of Big Data

3.1 Improve Network Stability

From the point of view of computer network, artificial intelligence technology can exchange the massive data in computer network, ensure the rapid transfer of data information once, and present the dynamic development trend of computer network system. The introduction of artificial intelligence technology can flexibly use computer information system, maintain the stability of computer network operation, scientifically process the exchange of data and information, and improve the operation quality and operation level of the network[5].

3.2 Building Intelligent Network Management Mechanism

The introduction of artificial intelligence in the computer network can permeate the fuzzy logic, and after the application of the fuzzy logic, the comprehensive and detailed state monitoring can no longer be implemented by creating the system model. With the introduction of artificial intelligence technology, the fuzzy logic processing method becomes universal in the computer network. It can effectively improve the speed and efficiency of information processing, effectively combine the relationship among the upper structure, middle structure and lower structure of the network, and improve the effect of management[6].

3.3 Improve Reasoning Ability

The advantage of artificial intelligence is that it can infer many other information contents from one information content. That is to say, we can get information from

the bottom information, and then use the bottom information to analyze and infer the high-level information, and apply the high-level information to the computer network process. Once there is nonlinearity, it can also be solved by using artificial intelligence technology. Through the above analysis, it is not difficult to find that the artificial intelligence technology in the era of big data can effectively deal with and solve the problems existing in the computer network, also can quickly retrieve the massive data in the computer network, improve the operation speed of the computer network and Xiaolongnv, and meet the needs of the development of the computer network in the actual situation.

4. The Application of Artificial Intelligence in Computer Network in the Era of Big Data

4.1 Safety Management Measures

The first is the regular production type of computer system. With the aid of artificial intelligence technology to support the detection of external invasion, with the help of expert system, artificial intelligence technology can accurately judge whether there is danger in external invasion factors and whether it will cause damage to computer system, and then carry out upgrade detection based on its own judgment, so as to improve the security and reliability of the whole system. The second is to create artificial neural network system. With the support of artificial intelligence technology, artificial neural network system should be created to manage and control the computer network technology as much as possible. In addition, it can simulate human brain to carry out scientific and reasonable thinking logic simulation, clarify the content and requirements of all aspects of system technology, and increase the strength and level of safety monitoring. Finally, data mining technology should be used reasonably. In the process of rational use of data mining technology, it is necessary to effectively describe and explain the computer network, clarify the technical nature of artificial intelligence and your company's ability, so as to increase the overall management of the computer network, in the case of scientific and reasonable data recording, eliminate the occurrence of security risks, and kill the security risks at the source[7].

4.2 Application of System Management Evaluation

The function of evaluation in computer network system is very important, so we must attach great importance to evaluation. Using artificial intelligence technology to evaluate the work, we can find the problems and shortcomings in the evaluation work in time and accurately, then take scientific measures to solve the problem of computer network, improve the effect of computer network and technology management. Reasonable use of problem solving techniques. From the point of view of artificial intelligence technology, the technology of problem solving can solve the problems of searching, reasoning and solving in computer network system. In the computer network system, artificial intelligence technology can be used to optimize

and innovate the space content system, to successfully complete the task, and to improve the management and control level of the whole system[8].

5. Conclusion

In order to ensure the stable and sustainable development of the computer industry in China and give full play to the value and role of computer technology, we must pay attention to the integration of artificial intelligence technology into the computer network management, improve the operation quality and efficiency of computer network technology to the greatest extent, complete the efficient processing of marine computer network data, and realize the optimization and improvement of computer network technology Mark. Computer staff should study and apply intrusion detection technology, artificial intelligence firewall technology and data mining technology to provide computer users with perfect network system management and control scheme, and help users solve various network security problems in time.

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