

# Application of Artificial Intelligence in Computer Network Technology

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## Abstract:

*In the context of the big data era, artificial intelligence technology has been widely used in all walks of life. The effective integration of artificial intelligence and computer network technology provides a favorable guarantee for the development of computer network technology. The application of artificial intelligence in computer network technology not only promotes the development of computer network technology, but also further improves the efficiency of network data management, allowing computer network technology to achieve sustainable development in the context of the big data era.*

## Keywords:

*Artificial intelligence; computer; network technology*

## 1 Big data era and artificial intelligence

### 1.1 Big data era

With the vigorous development of science and technology in China, a large amount of network data information has been integrated. After data integration, big data is formed, which promotes the arrival of the big data era. The era of big data is characterized by diversification. Big data is not limited to a single data format, but is aggregated from multiple data sources for processing. Big data expands as data sources continue to change. Comprehensive processing of data enables greater improvement in data analysis and application, which provides great convenience for people to use data.

### 1.2 Artificial intelligence

Artificial intelligence is one of the main products of the development of data intelligence. It involves many fields, especially in physics and biology, and has been widely used. Artificial intelligence is a representative of intelligence, changing people's traditional thinking patterns and making people's lives and production simpler and more efficient. The popularization of artificial intelligence has promoted the rapid development of various industries in our country, greatly reduced labor demand and improved safety and security.

## 2 The current situation of computer network technology application

With the rapid development of my country's science and technology, computer networks have been widely used in all walks of life. The application of artificial intelligence in computer network technology has further promoted the development of computer network technology<sup>[5]</sup>. At present, computer network technology has been popularized in people's daily lives. At the same time, the risk of computer network technology information security is also increasing. Various cyber attacks and computer virus appear, which causes serious information security to user information security<sup>[6]</sup>. In the process of use, there are still a lot of spam information, which also brings great trouble to people, affecting people's daily Internet access<sup>[7]</sup>. The application of computer network technology has brought great convenience to people's daily lives, but there are many dangerous factors, this is the problem that needs to be solved urgently.

## 3 The characteristics of artificial intelligence

### 3.1 Intelligent processing uncertain information

In the process of application, artificial intelligence analyzes intelligent analysis and processed accordingly through network simulation. Its work is not limited to a certain fixed program, and it can also be targeted at uncertain information. Artificial

intelligence simulates human operations, so as to process information and extract valuable information.

### **3.2 Intelligent management**

Artificial intelligence technology is fully implemented by various advanced science and technology. When processing network data information, the application of multiple advanced technologies can effectively ensure the accuracy and intelligent memory of network data information. Information database system. Intelligent management can effectively process the information library, improve the processing ability of the problem, and ensure the safety of the system use.

### **3.3 Information transmission sharing**

The characteristics of artificial intelligence are also reflected in the transmission sharing of information. The effective integration of network data can maximize the efficiency of network information management to the greatest extent, and fully improve the level of artificial intelligence. Make information communication more convenient.

## **4 The advantage of artificial intelligence in computer network technology**

### **4.1 Efficient treatment of unknown problems**

Artificial intelligence's reasoning tends to be blurred, and corresponding measures are proposed according to the results of reasoning. Such a reasoning mode is consistent with the processing of computer network data. Due to the uncertainties of computer data information, the processing of data information is more difficult. Through the application of artificial intelligence, it can effectively improve the processing capacity of data information and improve network management efficiency.

### **4.2 Lower operating costs**

Artificial intelligence consumes less resources during data processing. According to the different control algorithms, the operation speed can be further improved. Therefore, the use of artificial intelligence in computer network technology can not only greatly improve the efficiency of data computing, but also effectively save computer resources and make the operation of the network system smoother.

### **4.3 Strong learning ability**

Artificial intelligence has a strong learning ability, which can be processed with non-linear information and problems in the computer network. This type of data and information has high value. It is difficult for traditional computer network technology to dig out effective information. The application of artificial intelligence in computer network technology can effectively dig valuable information in data, people integrate information to obtain valuable information.

## **5 The use of artificial intelligence in computer network technology**

### **5.1 Use of network management**

In the context of the era of big data, the spread of network information is more convenient and fast, and the work of network security management is also more important. At present, computer network technology has been widely used, and it has been popularized in people's daily life. Whether it is data transmission and production, children's daily learning, etc., it reflects the in-depth use of computer network technology. The coverage of computer network technology is becoming more and more important, and the importance of network management is becoming more prominent. Scientific and reasonable network management is the key to ensuring the normal work and operation of computer network technology. During the use of computer network technology, the system operation will use a large amount of network data. When processing network information, network management has supported the operation of the entire system. The use of artificial intelligence in network management allows network management to have people's way of thinking, and can deal with the problems in management according to human thinking mode. The application of artificial intelligence in network management must be based on the working status of a computer network operation to ensure that artificial intelligence can be effectively applied in computer network management, so that computer network management can synchronize with human thinking mode, thereby a greater extent Improve the security of computer networks.

5.2 Application of network security management In today's era of rapid information dissemination, the improvement and exploration of network security management is the main task. Network security management provides effective support for the application of computer network technology to realize its economic benefits. In this context, it is necessary to effectively improve network security management, add artificial intelligence identification and processing links to computer firewalls, and

effectively process network information to avoid security risks. 5.3 Application of data information management Data information management is a major component of the operation of computer network technology. The application of artificial intelligence can effectively improve the information processing capabilities of computer network technology and meet the needs of the big data era. In the context of big data, traditional computer information processing capabilities can no longer meet current needs. It is necessary to use artificial intelligence to improve data processing capabilities and automatically process data information.

## 6 Optimization suggestions for the application of artificial intelligence in computer network technology

6.1 Improving the intelligence of artificial intelligence To improve the intelligence of artificial intelligence, researchers need to continuously strengthen the research on artificial intelligence technology and improve the level of intelligence, so as to make artificial intelligence more intelligent. The application of intelligence in computer network technology plays a greater role. Improving the intelligence level of artificial intelligence technology requires in-depth research on the use and direction of artificial intelligence to provide greater convenience to users.

6.2 The government and enterprises promote technological innovation. Artificial intelligence technology is a current high-tech. During the process of promotion and use, staff need to continuously collect information to provide reference for the research of artificial intelligence technology and meet people's use needs. The government and enterprises are the support for artificial intelligence technology innovation. The government needs to provide corresponding policy cooperation for the research of artificial intelligence technology and create a better research and development environment. The innovation of artificial intelligence requires a large amount of talent and capital investment. Relevant departments need to play a leadership role and encourage innovation invested by enterprises; On the other hand, they must strengthen the cultivation of talents, encourage and reward outstanding talents, and promote artificial intelligence technology to a higher level innovation.

## 7 Conclusion

In summary, the effective integration of artificial intelligence and computer network technology makes the processing and dissemination of various types of information more convenient and faster, meeting the needs of the big data background. The application of artificial intelligence in computer network technology gives full play to the advantages of artificial intelligence on the premise of ensuring the normal use of computers, making computer networks more secure, ensuring the information security and interests of users, and saving computer operating costs.

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