Artificial Intelligence and Its Application in Computer Network Technology

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Abstract: This paper briefly introduces the concept, origin, characteristics and application of artificial intelligence, expounds the application advantages of artificial intelligence in computer network technology, analyzes the problems existing in computer network technology, and launches the application of artificial intelligence in computer network technology. In-depth study, this article can play a certain reference and help for the application of artificial intelligence in computer network technology, gives full play to the value and role of artificial intelligence, promotes the development of computer network technology, and better meets the current social and economic development process.

1. Introduction
In the process of social and economic development, computer network technology has begun to spread widely. In recent years, artificial intelligence has developed rapidly. Some simple artificial intelligences, such as mobile phones, face recognition, intelligent voice, etc., are widely used in our daily life. It is related to the development and transformation of human life, which is an indispensable part of people's daily life and brings great convenience to people's daily life. However, the current artificial intelligence is still in the initial stage of development, and all aspects are relatively rough, which must be continuous optimization and improvement in the development process. Artificial intelligence has broad application value and development prospects in computer network technology by virtue of its own advantages, and can achieve better application results. This paper has carried out research and analysis.

2. Artificial Intelligence

2.1. Artificial Intelligence Concept
Artificial intelligence refers to the process of simulating human consciousness and thinking, mainly used to research and develop technologies, theories and methods related to human behavior and thinking. At present, the definition of artificial intelligence includes both artificial and intelligent aspects. In terms of artificial aspects, its understanding is relatively simple, generally refers to artificial systems, and the understanding of intelligence has great complexity. At present, our understanding is human beings themselves. Smart-based which uses computer analysis and calculation to simulate human thinking. That is to say, artificial intelligence can not only be used to express knowledge, but also to know the acquisition and application of knowledge. That means, artificial intelligence mainly studies the law of people's thinking activities, establishes artificial systems with people's thinking methods, and uses computer hardware and software to simulate human intelligence behaviors.
Currently scientists are studying the use of artificial intelligence to analyze the nature of human intelligent thinking, and hope to explore more. Human secrets promote human development and progress.

2.2. The Origin and Development of Artificial Intelligence
Artificial intelligence belongs to a category of modern computer science. Based on calculation, it uses a large amount of data to generate intelligent systems, which can be applied to different machines and software systems. It can not only process files, but also has an analogy. Three major changes have taken place in the development of artificial intelligence. The first time is to replace the traditional manual calculation with the machine, to use computer programming to realize the processing and analysis of the logical work, and to obtain the corresponding results; the second time is to realize the external communication, the robot perceives changes in external things, clarifies various uncertain factors existing in the outside world, uses computer to run logical thinking work, and significantly reduces the pressure on human work. The third time, using artificial intelligence to perform data processing and comparison complex situation. With the development of computer data mining intelligent system and the influence of network technology development, the level of intelligent processing has been significantly improved. The artificial intelligence system can realize intelligent analysis and processing of irregular data, complete various automation operations, and have the ability of data analysis, recognition, visualization and so on. With the advent of new technologies, the application fields of artificial intelligence have been significantly expanded, and the ability to analyze and process things has improved significantly. In the process of computer development, the development of artificial intelligence can be greatly promoted. With the improvement of artificial intelligence, there are more stringent requirements in the development of computers. Therefore, the close relationship between the development of artificial intelligence and the development of computers, only by combining the two, can achieve better sustainable development.

2.3. Characteristics of Artificial Intelligence Technology
In terms of network utilization, the application of artificial intelligence technology can realize the fuzzification of all kinds of unknown information, avoid the limitation of the program in the fixed digital model, and use the similar human operation mode to analyze and improve the effectiveness of various information managements. Artificial intelligence technology implements hierarchical network management in practical applications. Artificial intelligence technology can also achieve top-down constraints, supervision and collaboration in practical applications to maintain the smooth and harmonious operation of the network system.

2.4. Artificial Intelligence Application
In the development process, artificial intelligence involves many fields such as robotics, language recognition, image recognition and language processing. Machine translation is the most advanced application field in the development of artificial intelligence, but despite years of research and efforts, there still has a big difference between its practical application effect and the ideal state. It is difficult to completely replace the artificial real-time translation. This problem is mainly caused by the fuzzy meaning of the meaning of the words. It is difficult to realize the simulation of the emotions in the process of human prophecy communication. It is difficult for the translation system to develop the correct logic. Therefore, the development of artificial intelligence has a long way to go. In the future, with the development of artificial intelligence theory and related technologies, the application field of artificial intelligence will be significantly expanded, and it will involve all aspects of human life.

The development of artificial intelligence in China is relatively late, but the development speed is fast. The application of artificial intelligence in China is mainly concentrated in three fields, namely interface design, data search and main system. At present, people have very high attention in interface design, and develop intelligent interface technology, which can greatly improve the convenience and effectiveness of artificial intelligence communication, extract effective information from a large
amount of fuzzy data information and have corresponding value information. The application of computer intelligence is mainly to imitate the intelligence of human brain to complete various functions. In the future, the application of artificial intelligence in artificial neural network will be more popular, and it has the potential for super development. In the process of development, artificial intelligence is not only optimized and improved, but also can further influence the human lifestyle and production mode, laying a good foundation for the overall information development.

3. Application Advantages of Artificial Intelligence in Computer Network Technology
Artificial intelligence refers to a new kind of intelligence, which can be used to simulate the human intelligent activity simulation mode. The manual can only effectively process the uncertain information in the actual application, and at the same time, it can accurately grasp the global state and local state of the system. Based on the existing uncertainties tracking process, on the basis of this, the user is provided with the required information at any time. Artificial intelligence also has a very strong writing ability in practical applications, which can effectively integrate various resources to ensure that information data can meet the transmission and sharing needs of different users. Artificial intelligence application can also display very good reasoning ability and learning ability in the network intelligence. Using artificial intelligence, it can significantly improve the network operation management level, and improve the information processing efficiency while using the memory capacity to store information. Based on the information base, the information base is integrated and interpreted to form advanced information and improve the network management level. Therefore, in computer network technology, the application of artificial intelligence can better provide convenience for management personnel, complete various prescribed tasks according to the instructions of management personnel, and at the same time innovate and optimize various forms of task completion to improve network management efficiency and level.

4. Problems in Computer Network Technology
At present, people are using computers more and more frequently, and the scope and field of computer applications are obviously expanding. Whether in terms of learning, life or entertainment, computer network support is indispensable. In this process, people are increasingly Pay attention to the issue of network information. In the network management work, users have strict requirements on network monitoring and network control functions. It is necessary to establish a complete information acquisition and processing technology to ensure the irregularity and discontinuity of network data transmission. Early computers can only simply perform data analysis and processing. It is difficult to accurately judge the validity and authenticity of data. It is difficult to screen information and has a strict test of user information security. Affected by factors such as imperfect network security management and irregular regulation, it is difficult to respond to some violations of user information in a practical application, resulting in cybercrime. In this case, the development of computer management must improve the sensitivity and speed of the intelligent management system, better meet the needs of data collection and screening, timely find faults in the analysis and diagnosis, and improve the speed and timeliness of fault response to maintain the healthy and stable operation of the computer network system.

5. Application of Artificial Intelligence in Computer Network Technology
Because of the advantages of artificial intelligence, it can be applied very well in computer networks, and it has a very good application effect. The development prospects are broad. Only the full play of the value and role of artificial intelligence in the development of computer network technology can better meet the social and economic development. The specific application of artificial intelligence in computer network technology can be comprehensively analyzed and considered from the aspects of computer network management, agent technology application, system evaluation application, etc., improve the effectiveness of artificial intelligence application in computer network technology, and better support the development of computer network technology. Specifically, it is manifested in the
following aspects.

5.1. Artificial Intelligence Applied in Computer Network Management

The current network security vulnerability problem is very prominent. People have a very high degree of interest in user network personal data security. The application of artificial intelligence technology to computer network security management can better protect user privacy. The application of artificial intelligence in computer network security management can be divided into three aspects: intelligent firewall, intelligent anti-spam and intrusion detection. Intelligent firewall mainly uses intelligent identification technology to realize information data by means of probability, statistics and decision-making. The analysis and processing make the various calculation problems in the matching check are solved, quickly find the network behavior characteristic value, and control access based on this, the network hazard discovery efficiency is greatly improved, and the ideal effective information restriction and interception effect are obtained. The application of the intelligent firewall can resist hacking attacks on the network site, avoid the malicious spread of malicious viruses, and monitor and manage the internal LAN. If there is no intelligent firewall in the computer network management, the network will be very vulnerable to viruses and Trojans. Intrusion detection in intelligent firewalls is an important component. In practical applications, intrusion detection technology mainly analyzes and classifies data in the network, filters the suspicious data existing therein, and sends data detection and analysis reports to users. Intrusion detection does not affect the user's network performance in practical applications, and can effectively protect internal and external attacks and operational errors.

The intelligent anti-spam system is mainly used to monitor the user's mailbox, realize the automatic identification of the mailbox, find the spam existing therein, and after the mail enters the mailbox, scan the mail and send the garbage mailbox classification information to the user, which is convenient for the user to processing so as to achieve effective protection of mailbox security.

5.2. Application of Artificial Intelligence Agent Technology

The artificial intelligence agent technology refers to the artificial intelligence agent technology, including the database, the interpretation reasoner, the communication structure, etc. The artificial intelligence agent technology can use the Agent knowledge domain library to realize the processing of the information data and successfully complete the task. The artificial intelligence agent technology can use the user-defined information to expand the search and send the information to the specified location. People use Agent technology to obtain corresponding humanized services. When users use the computer to search for information, the application of artificial intelligence agent technology can realize the analysis and processing of information, obtain useful information of users, and save user time. The artificial intelligence agent technology can also provide convenience for user scheduling, online shopping, mail sending and receiving, etc., with autonomy and learning vocabulary, can realize the distribution of user tasks by the computer, and lay a good foundation for the development of computer network technology.

5.3. Application of Artificial Intelligence in Computer Network Management and System Evaluation

Intelligent computer network management needs to be supported by artificial intelligence technology and telecommunication technology. The knowledge base is built on the basis of artificial intelligence, which can meet the needs of information integration management. Network information has the characteristics of transient and dynamic. Under the support of intelligent technology, the effectiveness of network management will be significantly improved. After the expert decision-making and support methods are proposed, the development of intelligent technology can be better supported. We can targetedly collect the knowledge and experience of experts in relevant fields, use the methods of sorting and induction to input the system, establish an expert system, and play an important value and role in the processing of domain problems. The intelligent expert system can also realize efficient management of the computer network in practical applications, and provide accurate and timely evaluation for the overall situation of the system.
6. Conclusion
At present, the development of artificial intelligence technology is more mature and perfect, and its application can play an important value and role in computer network technology, and it has broad development prospects. At present, the application of artificial intelligence in computer network technology still has certain problems, mainly in network management and data analysis. As people's application demands increase, artificial intelligence technology will develop toward a broader field. Network management, Agent technology application, system evaluation and other aspects will play an increasingly important role, better meet the current needs of people in computer network technology, and support the sustained and stable development of China's social economy.

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