

The Application of Artificial Intelligence in Computer Network Technology in Big Data Era

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Abstract: The arrival of the era of big data has brought a series of new technologies, bringing a brighter future for the development of China's science and technology and electronics. As an inevitable product of the era of big data, artificial intelligence technology has naturally been sought after by all walks of life. This paper mainly analyzes the necessity and application points of artificial intelligence in computer network technology in the era of big data. The main application point is that the artificial intelligence data processing mode has different traditional forms to promote the development of enterprise management. Improve the computer's operating system and long-term development direction. And for the current main several specific applications briefly introduced. With a view to improving the application development of artificial intelligence in computer network technology in China, improving the computer level and strengthening China's science and technology construction.

1. Introduction

The development of artificial intelligence is inevitable. Artificial intelligence is a derivative of communication technology and computer network technology. Its development is a symbol of scientific and technological progress and a symbol. In recent years, big data has developed rapidly, driving the prosperity of many new technologies such as artificial intelligence. Artificial intelligence has become the darling of the times and the inevitable trend of mainstream technology.

2. The necessity of artificial intelligence applied in computer network technology and analysis of technical points

The application of artificial intelligence technology in computer networks has become more and more extensive, which has promoted the rapid development of the computer industry. The specific meaning of specific artificial intelligence needs to be analyzed and determined.

First of all, the necessity of artificial intelligence in computer network technology is clarified. First, with the continuous development of China's science and technology, computers are already the backbone of science and technology, and all walks of life are inseparable from the assistance of computer technology. However, there is a problem in the development of computer networks that has not been effectively solved, namely network security. Network security can be said to be a fatal hidden danger of computer technology. In order to ensure the safe operation of the computer network, reduce the security problems in the system, and improve security is naturally a problem that needs to be solved in the development of computer network technology. It is precisely the artificial intelligence that can make up for this, which greatly improves the security of the computer network to a certain extent, which is the necessary reason for its application. Second, the era of big data has arrived, and massive data processing has become the mainstream. Traditional computer network technology is not enough to keep up with the development of the times. It is difficult to quickly process massive amounts of data, and there are still serious efficiency problems. As an important technology in the era of big data, artificial intelligence is very necessary to apply nature correctly.

Secondly, what are the technical points of artificial intelligence in computer network technology? It mainly includes the following points.

First, the application of artificial intelligence in computers has changed the traditional computer data processing model. The combination of artificial intelligence makes the results of data processing more realistic and more efficient. Artificial intelligence can ensure the tracking and processing of data, and the processing is more timely. To a certain extent, the security of the computer is guaranteed. In addition, the artificial intelligence application in the era of big data has a larger data capacity, and it is not difficult to understand that when larger data capacity occurs, the advantage is naturally not to be underestimated. Basically, in the data processing process, there is no need to worry about unnecessary problems caused by excessive data volume, and worry about insufficient storage space. Finally, artificial intelligence in the era of big data is much faster at processing data than traditional computers. The efficiency has been significantly improved and can effectively replace the traditional mode of data storage. At the same time, a key problem is that artificial intelligence can simulate the behavior of people and use computers to cross-process large amounts of data to ensure data security. It fundamentally changes the traditional computer data processing mode, such as low efficiency, small memory, etc., and effectively improves computer network technology.

Second, the application of artificial intelligence can improve the computer's operational management system. The computer network can realize the efficient processing of massive data by using artificial intelligence technology, improve the processing efficiency of data, and also share and analyze data. In addition, with the help of artificial intelligence technology, the computer implements dynamic analysis to monitor user needs, and summarizes demand feedback to make a statistical analysis. Through a large amount of user feedback to clarify the real needs of users, the computer is more user-friendly. Search is more in line with user needs. In addition, the application of artificial intelligence technology has also enabled the computer system and functionality to be comprehensively improved and optimized to ensure stability and improve processing efficiency.

Third, it can promote the development of enterprise management. With the popularization of artificial intelligence, artificial intelligence has become a hot technology in various industries, and its application in industrialized enterprise management is very obvious. The application of artificial intelligence on the basis of computer technology can enable enterprise managers to process data most efficiently and improve efficiency with the help of computers. Internal management of the enterprise can also be made efficient. In addition, the use of artificial intelligence can also realize the construction of internal information of enterprises, and establish an information base within the enterprise. Edit data into the information base for easy integration management.

Fourth, artificial intelligence has a long-term development direction. The rise of artificial intelligence has received wide attention from all walks of life. The use of artificial intelligence technology in the computer field and the development of various advanced technologies have laid a solid foundation for the long-term development in the future. At the same time, it can be seen from this that the development of artificial intelligence has a long-term direction, and the future government and other directions will actively integrate artificial intelligence technology. Artificial intelligence technology will become a backbone of future technology.

3. The application of artificial intelligence in computer network technology in the era of big data

3.1. The application of artificial intelligence in network security in the era of big data

The arrival of the era of big data has made artificial intelligence technology develop efficiently. The application of artificial intelligence technology in network security is also prominent. The main applications are the following.

The first is the intrusion detection application. Intrusion detection is an extremely important part of the overall network security management. With the application of artificial intelligence technology to intrusion detection, intrusion detection has a more significant effect. Intrusion detection can detect applications by analyzing expert data, and security is relatively improved. The application of artificial intelligence in intrusion detection is manifested in several ways, among

which the expert system, data mining and artificial neural network are more significant. Expert system refers to the statistical work of expert work experience and related data through artificial intelligence technology, and then build a database of expert information. And the data in the system is divided by the computer code. The database is encoded into a corresponding computer code. Once the computer is compromised, it can be located in time to obtain relevant information efficiently. Staff can process information and data in a timely manner, analyze the cause of the invasion, and assess the risk to improve safety. In addition, data mining technology also plays an important role in intrusion detection. By extracting the detailed conversation content of the computer host through the network, and comprehensively describing the content, the details. Subsequently, such information rules are entered into the database by using data mining techniques to learn the standards of the corresponding intrusion hosts. Once the host encounters a virus intrusion, it can identify the intrusion rules of the database in time to facilitate subsequent efficient processing. Finally, artificial neural networks use computers to simulate human behavior and thinking. Compared with other computer technologies, artificial neural networks have unique advantages, which are closer to human thinking, and more fault-tolerant and receptive. When detecting computer intrusion, the artificial neural network and the artificial detection system are combined with each other to make the effect more significant and the processing more efficient.

Second is the application of intelligent firewall technology. Smart firewalls are different from traditional firewall technologies and do not require a request for a request to be released each time an application needs to access the network. In contrast, smart firewalls have a self-discrimination system that only initiates an inquiry when an indeterminate software requests a network. In other words, the application of intelligent firewall greatly reduces the number and probability of alarm queries, avoiding the inconvenience caused by traditional firewalls. Frequent alarm inquiries can affect the subjective judgment of the user itself, and the user's judgment or difficulty may bring unnecessary negative effects. The intelligent firewall uses an artificial intelligence identification system to monitor access requests. The practical application advantages of the intelligent firewall are as follows. The first is that the application of intelligent firewall solves the problem of traditional problems, that is, DDOS is a denial of service attack, and advanced intrusion. The privilege is minimized and the system minimizes the actual application. Second, smart firewalls can protect against malicious data attacks. Identify malicious data traffic through artificial intelligence systems and intercept malicious data traffic in a timely manner, and organize malicious data attacks on computers. Maximize the cut off of malicious traffic and Trojan attacks. Again, smart firewalls protect against hackers. Block malicious scanning by intelligently identifying malicious scans of hackers. Effectively solve malicious scanning problems and avoid hackers. The main identified scanning software should include most of the scanning software distributed by the network, including SSS, ISS and so on. In addition, smart firewalls can implement intrusion prevention. Through intelligent detection, the data that is allowed to be released is tested to improve defensiveness. Finally, smart firewalls can also increase the prevention of potential risks. Smart firewalls tend to normalize protocols, maximizing the potential risk of eliminating protocols and eliminating threats from vulnerabilities in protocols.

3.2. Application of Artificial Intelligence in Network Agent Management in Big Data Era

At present, in the era of big data, artificial intelligence agents have become a kind of substantive software technology. As an important branch of artificial intelligence technology application, intelligent agent makes computer technology more humanized. In general, the emergence of intelligent agents has realized the humanized and personalized development of computer technology, and is closer to people's needs. In the actual application, the intelligent agent is a technical means to use the artificial intelligence system as a reference basis to acquire and apply information through the artificial intelligence system. The main characteristics of intelligent agents are: intelligence; learning; continuity; agency and cooperation. The advanced technology and application characteristics of intelligent agents make it an important technology in network information retrieval. With the advent of the era of big data, new breakthroughs and progress have been made in

data processing. In this situation, artificial intelligence has also shown a trend of large-scale development. In general, early mastery of artificial intelligence in the industry is an opportunity for every industry. Intelligent agents (IA) have also received more and more attention and attention. Among them, the main application of IA technology (smart agent technology) in China includes intelligent search engine agents, e-commerce, digital libraries and so on. It can be said that the application of intelligent agents has become an important representative of forward-looking.

3.3. Application of artificial intelligence in network management and system evaluation in the era of big data

In the era of big data, computer network technology wants to be better developed and upgraded, and it is undoubtedly necessary to integrate more advanced technologies. Artificial intelligence is an inevitable outcome of the era of big data, and the application of artificial intelligence will bring unprecedented improvement to the development of computers. The help provided by artificial intelligence in network management work is also important and needs to be paid attention to by computer development. The main technical manifestations are as follows.

First, the expert knowledge base. As an important application of artificial intelligence in network management and system evaluation, the expert knowledge base is also incomparable to the previous computer network technology. The expert knowledge base is a very important component of the expert system. The expert knowledge base provides sufficient back-office reserves for expert systems by statistically storing and managing knowledge and data in expert systems. The contents of the expert knowledge base mainly include the knowledge gained by experts in various industries in the long-term practical experience and the knowledge content already in the books. We can understand that the expert system is the sum of the knowledge base and the inference engine, and the expert system has a strong dependence on the expert knowledge inventory. This is not difficult to launch, and the status of the expert knowledge base is evident. When the content of the expert knowledge base is not perfect enough, the expert system shows that the lack of knowledge is that the knowledge base is insufficient and the reasoning machine is strong. The adjustment is out of balance, and the expert system cannot really play its role. With the application of artificial intelligence, the expert knowledge base is constantly improving, and the role of the expert knowledge database in the state of the expert database is becoming more and more significant. Simply put, the expert knowledge base is the core component of the entire expert system, and the improvement of the expert knowledge base is the effective help to promote the expert system.

Second, artificial intelligence solving techniques. Artificial intelligence solving technology, as the name suggests, is the process of solving related problems using artificial intelligence technology under a specific problem. At present, the main applications of artificial intelligence solving are algorithm solving and heuristic solving. Algorithmic solving is to use programming to process a specific type of problem and get the result. The content of the algorithm needs to be included in the programming. Heuristic solution is a widely used problem solving strategy. Strategies for solving problems that are imperfect and complex and unconventional. The specific content of artificial intelligence solving technology includes search, reasoning and necessary solving processes to improve computer computing efficiency and information processing capabilities. In the evaluation, the artificial intelligence solving technology mainly adopts two aspects: the search space and the optimal solution (the solution method of the optimal solution is also more complicated and diverse). After the system obtains the optimal solution, the corresponding formula is used to calculate the evaluation, the evaluation result is analyzed, the meaning of each part of the formula is clarified, and the result is better evaluated. It can be said that the application of artificial intelligence technology effectively reduces the waste of resources in the evaluation of computer network technology, greatly saving costs and improving work efficiency.

4. Conclusion

Big data brings a lot of convenience and speed to people's lives. Artificial intelligence technology has unlimited development prospects, but the specific implementation plan requires

more professional and sophisticated research and analysis, and requires professional personnel to continuously test and find better solutions.

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