

Application of Artificial Intelligence Technology on Cyberspace Security Defense

Shu Cai

Department of Tourism and Commerce, Jiangxi Vocational Technical College of Industry&Trade,
Nanchang 330038, China

Keywords: Artificial Intelligence, Cyberspace Security Defense, Application Study

Abstract. The main purpose of cyberspace security defense is to analyze a large number of events in a timely manner and build sufficient security defenses for the ever-changing cyberspace. The development of science and technology has made human life and cyberspace closely related, and artificial intelligence has spread in various fields. The artificial intelligence technology for cyberspace security defense has received a lot of scientific attention in recent years, and its research and exploration fields are deepening. This paper briefly describes the basic characteristics of network security defense and artificial intelligence, analyzes its application advantages, and cites specific typical application examples, aiming to provide effective countermeasures for the development of artificial intelligence in this field and improve the overall security of future network space.

Introduction

At present, the continuous popularization and development of China's network has brought great convenience to people's work and life. However, because of the openness of the network, etc., if there are obvious security risks in specific network applications, it is very likely to cause the more obvious loss problem has a worse impact. Based on this, it is an important aspect to pay attention to security in network applications. Cyberspace security defense has attracted people's attention at present. It is committed to combating network illegal activities and forming a safe and reliable network running space. To enhance its comprehensive defense capabilities. The rational application of artificial intelligence technology in cyberspace security defense is also an important way. It should be promoted to be ideally applied and focus on flexible matching of multiple methods. Therefore, this aspect of research is of great value.

Network Security Defense and Artificial Intelligence

Cyberspace is cyberspace. It is a huge virtual picture. It connects everything through media. Its medium is a kind of information technology infrastructure, including: Internet, communication network, computer system and embedded processor and control. Device. In another direction, the agent of artificial intelligence, Cyberspace is a space in which virtual energy is related to each other. Compared with general artificial intelligence, it has many unique characteristics in terms of the environment, including perception, discreteness, complexity and fierce confrontation. In cyberspace, there is a constant confrontation between forces, which requires intelligent defense, firewalls, and various other defense systems to intervene.

Offensive cyber operations refer to the process of computer network attack (CNA) and computer network exploitation (CNE) of attack objects in Cyberspace. The essential difference between CNA and CNE is the difference in its approach. The former belongs to a malicious cyber attack, and the latter belongs to intelligence gathering. The former will cause the computer network to be destroyed and chaotic, and the latter hides itself into the computer network of the other party to collect the demand data.

Computer network defense (CND) is a kind of protection measure for computers, networks and various kinds of information. It is a contradiction between computer and network attacks. It can also monitor and confront illegal computer operations. The network defenses we often use mainly

include firewalls, various anti-virus software, URL filtering, terminal detection and response, etc. The substantive technologies mainly include active spoofing, cyberspace conflict avoidance technology and passive information protection. Cyberspace situation awareness was first proposed in 1999, and its concept was compared with the Automatic Train Control (ATC). The development of network situational awareness has not yet given a very precise concept.

Artificial Intelligence Technology and its Application Advantages in Cyberspace Security Defense

The cyberspace is mainly for a space structure involved in Internet applications. It not only includes the Internet environment, but also computer equipment and other terminal equipment. It has exerted strong application value in many industries. Because the application of this kind of cyberspace is more and more complicated, and there are many factors involved, it is easy to be affected by external factors. Therefore, cyberspace needs to have strong security defense effect and can reflect strong environmental confrontation characteristics. At present, the types of external environmental interference factors affected by network space operations are complex, involving many different types of intrusions, and it is extremely important to ensure that they have ideal security in operation, which should be highly valued.

Artificial intelligence technology is more common in the current social development. It mainly realizes the effective control and regulation of the target by simulating the relevant laws of human activities. The application of artificial intelligence technology can realize the process and mode of the relevant process in line with human brain activity. The knowledge and theoretical content involving multiple disciplines have shown strong comprehensive characteristics, and have shown strong application value in the current cyberspace security defense. Combined with the effective application of current artificial intelligence technology in cyberspace security defense, it has more prominent application value and obvious advantages than traditional defense methods and mechanisms. First of all, the application of artificial intelligence technology has strong reasoning ability, which can effectively realize the accurate identification and effective processing of various types of adverse interference factors and improve its accuracy. Secondly, the application of artificial intelligence technology also has strong fuzzy information processing. Capability, in turn, can effectively monitor and control various types of viruses and other interference factors that may exist in cyberspace, and ensure the security of cyberspace to the greatest extent. Finally, the use of artificial intelligence technology in cyberspace security defense is also highly efficient. And cooperation, can better apply multi-faceted resources to participate in cyberspace security defense, and thus significantly improve its processing efficiency, relatively high execution capability.

Application of Artificial Intelligence Technology in Cyberspace Security Defense

In the cyberspace security defense, the firewall is an important part, which can effectively achieve effective control of various security risks in the network, so that it can form an ideal protection effect on computer equipment or other terminals. Although more types of firewalls have been deployed in the past cyberspace security defense, the final application effect is not particularly ideal, and it is difficult to achieve an ideal all-round security hidden danger blocking effect. The application of artificial intelligence firewall technology has obvious advantages in this respect. It can better realize the detailed statistics, analysis and judgment of various security risks, and then make it more efficient and accurate in specific blocking and interception. Effectively circumvent possible malicious attacks and fix obvious vulnerabilities that may exist in previous firewall applications. It can be seen that the application of intelligent firewall technology can better optimize the security access control defense mechanism, better highlight the advantages of artificial intelligence technology, ensure that the security risk analysis and judgment is more accurate, and ensure that the original network system is applied properly. Based on the expression of the function, the security defense effect is better improved.

The implementation of cyberspace security defense work also needs to focus on strengthening

the monitoring of some intrusive viruses or insecure factors, understanding the specific performance after entering the terminal or network system, and exerting the ideal control effect before it has obvious threats and impacts. To avoid causing a wider range of damage. Although there are corresponding monitoring techniques in the past cyberspace security defense, it is prone to some loopholes or chaotic problems of monitoring objects. Therefore, it is necessary to focus on the integration effect of artificial intelligence technology to ensure that it can achieve more comprehensive real-time monitoring effects. In the specific application of artificial intelligence intrusion detection technology, it is possible to first intelligently judge all data information, to know whether there are obvious security risks, focus on these security risks, and take appropriate monitoring measures to ensure the final network. Space operation is safer and smoother. The application of this kind of intrusion detection technology has been ideally applied in many enterprises and institutions or organizations with relatively higher security levels, effectively avoiding the obvious impacts and threats that various external intrusion factors may have on the corresponding network space.

For the optimal arrangement of cyberspace security defense work, the application of artificial intelligence technology is also manifested in the effective defense against spam, and thus more comprehensively defend against cyberspace security. In the current cyberspace application, because of the adverse effects and interference problems caused by the existence of spam, many junk files or viruses may accompany the spam into the network space or terminal devices, which may lead to poisoning problems in the entire network space. Based on this, it is extremely necessary to effectively identify and prevent spam, and it should be highly valued in the network security defense work. The artificial intelligence technology plays an important role in the discrimination of spam. It can better shield the spam and form an ideal anti-spam system for the network space, effectively ensuring that the entire network space will not be significantly interfered. In the end, it is ideal to control and prevent viruses or other intrusive factors, and to ensure system security in all aspects. At the same time, artificial intelligence technology can automatically form report files in the defense of spam, and better provide reference for the identification and processing of subsequent spam, and the application value is more prominent.

For the effective application of artificial intelligence technology in cyberspace security defense, the application of neural network system is also an important means, which can better realize the recognition and control of various information in cyberspace, with more powerful execution. Functions such as computing and storage can play an active role in current network security defenses. The effective application of neural network system in cyberspace security defense can better realize the effective identification and monitoring of various intrusion factors, and thus prevent viruses or other bad information, and ensure the security and stability of cyberspace to the greatest extent. . The specific application of this kind of neural network system has strong identification and analysis ability in practical applications, which is also a prominent feature of artificial intelligence technology application, and should be applied well in the network system layout, especially for different Processing of information. The application of the neural network system also has obvious differences, so it can better improve its operational protection effect. At present, the application of artificial intelligence technology in the construction of neural network system in China is still in its infancy, and it is not particularly mature, but its role in cyberspace security defense is relatively prominent and should be paid attention to.

Conclusion

Strengthening the research on cyberspace security defense is an important condition to ensure that the future network system exerts stronger application value and reduces the threat of loss. The effective application of artificial intelligence technology in this aspect has indeed shown strong application value. Therefore, it is necessary to surround the technology. Introduce and apply detailed analysis to ensure that it achieves stronger cyberspace security defense effect and maximizes the optimal construction of the original security defense system.

References

- [1]. Luo Shutong, Hao Peng. Application Analysis of Artificial Intelligence Technology in Cyberspace Security Defense [J]. Digital Communication World, 2017(11): 107-108.
- [2]. Li Jian. Application Analysis of Artificial Intelligence Technology in Cyberspace Security Defense [J]. Digital World, 2018.
- [3]. Chen Shuisheng. Application of Artificial Intelligence Technology in Cyberspace Security Defense [J]. Computer Knowledge and Technology: Academic Exchange, 2018, 14(3): 162-163.
- [4]. Wang Lei, Zhang Delei. Application of Artificial Intelligence Technology in Cyberspace Security Defense [J]. Computer Fan, 2018, 115(12): 60.
- [5]. Li Zeyu. Application of Artificial Intelligence Technology in Network Security Defense [J]. Information Communication, 2018.