

The integrated development of artificial intelligence technology and the communication industry

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Abstract. With the development of big data, Artificial intelligence applications are born, And has been better developed and improved. Artificial intelligence is no longer a concept on paper. It's developing as a world-changing and revolutionizing everything. Artificial intelligence is also gradually being widely used in various industries. The needs of artificial intelligence in each industry field are different, The development of artificial intelligence technology has also become a hotspot of research direction and application. For example, the communication industry is inseparable from our work life, This article will analyze the mutual integration of artificial intelligence technology and the communication industry, propose overlapping innovations between the two, In the field of information and communication, artificial intelligence helps the construction and operation of communication network, turns the conventional operation process to process automation, and realizes the cost reduction and efficiency increase of communication operation enterprises. AI can also optimize communication products and services, realize the convenient, accurate and intelligent development of communication services, and improve customer experience.

Keywords: Artificial intelligence, Communications industry, Technology

1. Introduction

According to the current development trend, Although the definition of artificial intelligence is not uniform, But artificial intelligence has penetrated into people's daily work, life and production. In recent years, Big data and deep learning technologies continue to advance the pace of artificial intelligence technology. When AlphaGo faced top Go players, it was invincible. The world has had a great response to artificial intelligence, Artificial intelligence technology has ushered in a bright period. Countries have begun to introduce policies that are conducive to the development of artificial intelligence technology. Various industries have also begun to introduce artificial intelligence technology. The communication industry as a mainstream industry is no exception. Even artificial intelligence technology is used as a breakthrough in the development of the industry. However, the development of anything has two sides, While the communication industry regards artificial intelligence technology as the main driving force for development, it is also facing huge challenges[1].

2. Overview of Artificial Intelligence Technology

Artificial intelligence is a discipline to explain and simulate human intelligence, intelligent behavior and its laws. The purpose is to establish the theory of intelligent information processing, And then design computer systems that can exhibit certain behaviors similar to human intelligence. As early as the last century, Human beings conduct intelligent research on machines. To verify whether the machine can have the intelligence of humans or even far beyond human beings, The discipline of machine learning emerged, As an independent discipline, it is also

continuously promoting the development of artificial intelligence to industrialization. Nowadays, my country is developing by leaps and bounds in the field of artificial intelligence. It has been applied and developed in products in various industries such as smart manufacturing, smart medical care, smart home, and electronic communications. my country's "New Generation Artificial Intelligence Development Plan" proposes, It is necessary to strengthen the research on the AI standard framework system. By 2021, the artificial intelligence technology standard system will be initially established, including the basic commonality of artificial intelligence, interconnection, industry application, network security, privacy protection and other technical standards, As well as standards for subdivided application fields such as unmanned driving and service robots, encourage participation in or lead the development of international standards, To "go global" with technical standards to drive products and services to "go global". In the "Thirteenth Five-Year Plan" Technical Standard System Construction Plan for the communications industry compiled by the Ministry of Industry and Information Technology, It has been proposed to establish an artificial intelligence standard system, Develop key standards such as network, platform, terminal, security, and intelligence level[2].

3. Application of artificial intelligence technology in the communication industry

Nowadays, our work and life have been completely covered by the Internet, The way of information transmission is also mainly by means of the Internet. The communication industry combines artificial intelligence technology, Such as speech recognition, image processing, natural language processing, virtual assistants, deep learning platforms and other technologies. At present, the application of artificial intelligence technology in the communication industry is mainly reflected in the following aspects.

3.1 Strengthen the quality of network communication of operators

When we use the Internet or broadband, Especially in the process of using broadband, there will always be some problems and failures. This is a door-to-door repair service that requires a maintenance technician to perform, This is a more traditional technical maintenance, It takes a long time and is a waste of human resources. However, it is impossible for every user to have the skills to diagnose faults and repairs. Then, artificial intelligence technology reflects its value, When people encounter broadband failure, artificial intelligence technology can be used, For example, download the operator's official APP, mobile phone business hall or WeChat public account, Simple confirmation of the type of the product to the fiber optic cat, Then find the corresponding solution according to the indicator light and fault information of the device. Or identify the fiber optic cat through the downloaded software, And then judge the machine failure and give the corresponding solution. If it is a more important fault, It is detected and maintained through system alarms. Then find the key points of monitoring, Develop a plan for intelligent inspection, In this way, the automatic output of inspection and maintenance plans can be realized. Realize intelligent operation and maintenance. In this way, through the integration of artificial intelligence technology and communication, It solves the user's problem, It also saves technician maintenance time. It greatly improves the work efficiency and communication quality of the communication industry.

3.2 Build a customer service system in the communication field

The operator's customer service system is the most important and direct way to provide services to customers, the customer service system has always represented the service quality of the operator, For a long time, manual service has been the main force of the customer service system. This also leads to the operator needing to invest a lot of human resources and costs. As the pace of work and life continues to accelerate, The customer service system in the communication industry is also gradually refined. On the basis of artificial intelligence technology, we will continue

to create intelligent customer service. Faced with some simple and repetitive problems, they can be handled by intelligent voice customer service. This solves the problem for most carrier customers. Moreover, the manual customer service occasionally causes service errors for some reasons. Reduce the service efficiency of the operator.

In order to effectively reduce the pressure on customer service during peak hours, Multi-channel, multi-platform service model can be established. For example, the operator's official website, WeChat public account, mobile phone business hall and other real-time platforms. Provide users with a variety of customer service portals. For example, the operator's WeChat public account, You can set the user configuration information for logging in to the website, realize quick login, Real-time tracking of user information, Complete user real-time service requests, Quickly search for the knowledge required by users, And can solve the problems and common problems raised by users. Relatively simple to use problem, Users can call the customer service number, Using artificial intelligence technology such as speech recognition and text input, Collect and reorganize audio data for users throughout the process. Then filter the keywords for users. Issue a user demand report. Provide corresponding services for user problems. This method avoids the traffic pressure of manual customer service during peak hours. It also saves the operator's cost in terms of human resources [3]. The application of artificial intelligence technology in the customer service system in the communication industry, It can intelligently provide users with more efficient and professional services, Combined with the user information management system, Further improve the speed and quality of customer service, Promote the development and construction of the operator's customer service system. To achieve intelligent human-computer interaction, Provide users with more convenient and efficient business consulting, handling and other comprehensive services.

3.3 Improve the degree of network security in the communication industry

While the Internet brings convenience to people, It also brings various security risks. For example, the common "Trojan virus", Invading computer network systems through the Internet to obtain user information, Steal confidential data, destroy important data, lead to the paralysis of the entire computer network system. And viruses are like parasites, attached to various Internet data, It continues to spread through the Internet, bringing immeasurable harm to users. In recent years, online fraud has brought huge damage to people's economy and life.

In response to this phenomenon, various technologies in the field of global network security are being comprehensively improved and promoted. Based on machine learning and deep learning methods in artificial intelligence technology, we conduct exploration and research on systems such as intrusion detection, and predict important information alerts in real time. For example, the "anti-fraud APP" we have installed now, Able to find monitoring points in real time for inspection, By linking professional systems, Automatically detect that the current user is suffering from telecom fraud, Able to assist the police in time to help users avoid telecom fraud. It not only improves the accuracy, but also realizes the intelligence. Using artificial intelligence technology to find problems in time, from the original passive processing of problems to active prevention of problems.

3.4 Facilitating the Accuracy of Data Mining

A large amount of data generated in the development process of the communication industry belongs to low-level data. It needs to spend a lot of human resource costs to deeply mine and process the existing data. With the development of big data and collaborative filtering technology, The traditional data mining and processing methods cannot meet the development needs of the communication industry. Some data will be wasted to a certain extent. Artificial intelligence technology itself has superior learning and inference ability, And then through certain technical means to mine and analyze low-level data, The end result is high-level data. With the development of computer networks, some new information with vague logical concepts will also be generated. It can

be monitored and managed by artificial intelligence technology, Not only can network security be maintained, but also data can be efficiently utilized [4].

With the popularity of smartphones, various social media have developed rapidly. While people enjoy the convenience brought by the massive information brought by the communication industry, they also suffer from spam and useless false information. Artificial intelligence technology can collaboratively filter news information through keywords, and push high-quality news information to users. Greatly improve the accuracy of information obtained.

3.5 Application of Firewall Technology in Security Configuration

As an important part of computer network security, security configuration can divide computer network security into various sections, each section can operate independently, and generate corresponding isolation areas. These isolation areas are actually completely independent local area networks. , individuals and enterprises can convert these independent local area networks into internal networks, maintain the security of servers, and play a corresponding role in protecting computer network information. When using firewall technology, there is a relatively high demand for security configuration, and there are characteristics that are significantly different from computer network security protection technology. In the security configuration link, it can supervise the isolated area of the computer network, monitor the actual situation of information flow, and convert the information address flowing from the internal network to the external network into a public address according to the conversion of the address. Avoid address resolution and tracking of the internal network in the event of an external network attack. At the same time, when the firewall technology is used in the security configuration, it can shield the address information, which is beneficial to the mutual flow and interaction of information resources between the internal and external networks, and can shield the real addresses and ensure the data information of the internal network. and will not be compromised by external networks. In the event of an external attack, there is no way to obtain real internal information, only false addresses can be obtained, which maintains the security of the internal network to a large extent. Whether it is an individual or an enterprise using a computer network, You can use it with confidence, without worrying that your data information will be tracked by others.

3.6 Construction of Smart City

The essence of the so-called smart city refers to the high integration of urbanization and informatization, which is the application of deep cooperation between physical equipment and communication network. Smart cities use sensors to connect real cities on the basic framework of digital cities, Hand over data storage, calculation, analysis and decision-making to the cloud computing platform for processing, And automatic control is carried out according to the decision results. At present, intelligence and informatization both belong to industrial transformation and development. It is the driving force of national development and progress. Take Wuhan City as an example: In the process of urban development, Wuhan has been challenged by various problems such as transportation, medical care, logistics, and enterprise transformation. In recent years, Wuhan has relied on government policy support, technology introduction, talent base, industrial support and other construction foundations. Focus on the development of artificial intelligence and the construction of smart cities, Relying on new technologies such as smart transportation, smart medical care, and smart manufacturing, the development of urban industrialization and informatization has been promoted [5].

4. Conclusion

To sum up, the wide application of artificial intelligence technology is an irresistible trend of social development in the future. In the future, the connection between artificial intelligence technology and communication technology will become closer and closer, and it will also change

people's way of life to a greater extent. The development of society will have a significant impact. At present, for the cooperation between artificial intelligence technology and the communication industry, many people only see the dividends of development and maintain an overly optimistic attitude, while some people only see a series of challenges and maintain a conservative attitude. The development of artificial intelligence technology will become more and more intelligent, service-oriented and interactive, It uses the rule base to organize the data to store the voice, touch, image, etc., Make real-time feedback services according to different data information. Artificial intelligence is not only a trendsetter in the development of the times, but also an inevitable product of the development of the times. Artificial intelligence technology has been widely used in mobile Internet, security, finance and other industries. Humans maximize the role of artificial intelligence technology and bring convenience, At the same time, it is necessary to prevent and respond to the negative impact of artificial intelligence technology in a timely manner. Discuss and demonstrate the innovative power of artificial intelligence technology according to different scenarios, Being able to properly use the double-edged sword of artificial intelligence technology, And timely put forward the problems faced by artificial intelligence technology in the development process and put forward suggestions, It is a serious problem that the communication industry must face.

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