Research on the application of artificial intelligence in computer recognition technology

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Abstract: In recent years, with the vigorous development of science and technology in China, artificial intelligence technology has been applied to all aspects of life. In this context, China's artificial intelligence in computer recognition technology has also made great breakthroughs and progress, but because the development history of artificial intelligence in our country is relatively short, artificial intelligence in computer recognition technology is not perfect. There are still some problems in the practical application of recognition technology, this article is mainly through the relevant concepts of artificial intelligence in recognition technology of computer image. The main characteristics and future development direction are briefly elaborated and analysed.

1. Introduction

In the context of the new era, the intelligent processing of computer image recognition is particularly important, because of the development of network technology, the Internet popularity is high, people's requirements for image retrieval are also increasing, but the image information stored in the Internet is huge, and most of them do not have corresponding labels, resulting in the user's retrieval needs in the retrieval process cannot be accurately located, affecting the user's Internet use experience, through the use of AI means in picture recognition, accurately locate and identify images on the Internet to meet users' needs.

2. Overview of Artificial Intelligence in Computer Technology

Computer is a product of the construction of human civilization, which to a certain extent represents a new height of human development and plays a leading role in the society development. In today's era, with the rapid development of computer network technology, China's application of the Internet is becoming more extensive, and the artificial intelligence that has appeared in recent years has radiated to various fields in China[1]. Over time, whatever technology needs to go through real-life application and practice. When artificial intelligence first appeared and entered the market, people's acceptance of artificial intelligence was low. But after the use of AI+ in real life, people found that to a certain extent it did bring convenience to people's daily life, and with the continuous improvement of artificial intelligence technology, AI technology has become more perfect, gradually penetrating all aspects of people's life and production, becoming part of people's daily life. Under this

trend, artificial intelligence in recognition technology of computer image also emerged, through artificial intelligence to identify images, can automatically retrieve and identify image information and data, further reduce people's work burden, and fully realize intelligent life.

3. Characteristics of Artificial Intelligence in Recognition Technology of Computer Image

3.1 High Recognition Accuracy

The accuracy of the previous recognition technology of computer image is low, because in the process of image recognition processing, it is necessary to digitize the analog image and then carry out analog-to-digital conversion, but in the process of processing, some data will be lost, resulting in the previous recognition technology of computer image, cannot meet the accuracy requirements of people for image recognition in the new era. However, artificial intelligence in recognition technology of computer image does not need to convert images like previous image recognition, but directly processes images, avoiding the problem of low image recognition accuracy caused by losing part of the data volume in the conversion process. Artificial intelligence in computer image recognition can also carry out quantitative processing between images and information, help users obtain more accurate and detailed image information, and improve the accuracy and reliability of image recognition to a certain extent.

3.2 Be More Expressive

Intelligent processing of image recognition through artificial intelligence can also improve the clarity and imaging effect of the image, because artificial intelligence in computer image recognition can ensure that the image is effectively calculated and processed in different scenarios to ensure the restoration and reproduction of the image effect, so after the computer analyzes and recognizes the image, it can still ensure that the expressiveness of the image will not be affected, which is the effect that traditional image recognition technology cannot achieve.

3.3 More Flexibility

When artificial intelligence in computer recognition technology recognizes images, it can combine the needs of users to process images in a targeted manner, such as enlarging or strengthening, to meet actual needs more flexibly. In addition, through the processing of the image to be retrieved, the computer can accurately identify the image, and artificial intelligence can help people express their needs more accurately. When the user's needs are ambiguous during the recognition process, artificial intelligence performs precise positioning.

4. The Bottleneck of the Development of Artificial Intelligence in Recognition Technology of Computer Image

From the status of Internet development in China, the upgrading and breakthrough of network technology, coupled with the capital and technology investment in the field of intelligence in recent years, recognition intelligent in image processing technology has been used in all occupations in China, and its promotion scope is gradually expanding[2]. Although the current development momentum of artificial intelligence is good, it is undeniable that in terms of image recognition intelligence, China is still in its infancy, and the technical research on image recognition intelligence is affected by many external factors. For example, the influencing factors can be divided into the following two aspects: first, the hardware of the computer system will limit the application of image

recognition technology; Second, China's current image recognition technology can only accurately identify a small part of the image, when the scope of image recognition expands to more complex or previously not recognized fields, the accuracy and efficiency of image recognition will be reduced.

Although China has achieved a lot of research results in the field of artificial intelligence image recognition technology, it will take a long time to catch up with the intelligence level of developed countries, and in the actual use of intelligent image recognition technology, there are fewer domestic related software and equipment, so in the process of research on many technologies, it is also necessary to import equipment from abroad, which will also affect the development of artificial intelligence image recognition technology to a certain extent. In addition, China's artificial intelligence image recognition processing is still stuck in two-dimensional image processing, when faced with high-precision, high-complexity image recognition processing requirements, computer processing speed cannot meet the requirements, want to make the next breakthrough and development of AI image recognition technology, but also need to rely on the further optimization and upgrading of computer technology.

5. The Future Development Breakthrough Direction of Artificial Intelligence in Recognition Technology of Computer Image

In view of the relevant content mentioned above, in the process of practical application of artificial intelligence image recognition technology, its reliability, authenticity and accuracy should be guaranteed. The state needs to increase investment and support for artificial intelligence identification technology[3], if there is a lack of corresponding economic investment and policy support, it will hinder the development of AI technology, which is not conducive to the large-scale production of artificial intelligence and affects the wide application of AI. In view of the problems existing in artificial intelligence image recognition technology at this stage, relevant enterprises and research institutions should solve them in practical applications, and the solution direction should focus more on solving various recognition problems in artificial intelligence image recognition technology, and further improve and upgrade the artificial intelligence image recognition system to ensure the quality of image recognition.

The difficulty of using artificial intelligence in computer recognition technology in the field of image recognition is relatively large, on the one hand, because the processing of images involves a wide range, such as image content, color, shape, and contrast intensity; On the one hand, it is because the image system itself is characterized by diversity and complexity. Therefore, if you want to use AI recognition technology in the field of image recognition, researchers must optimize and upgrade the feature extraction function in image recognition, because the feature extraction function is a very important step in artificial intelligence recognition technology. There will be a lot of data in the image itself, and the main features of these data should be retrieved and extracted in the image recognition process, and the accuracy of the extracted data features should be guaranteed, which requires high recognition effect and recognition quality of the computer. Therefore, appropriate measures must be taken to process the image. In view of the future breakthrough direction of artificial intelligence in computer recognition technology in the field of image recognition, this paper puts forward the following suggestions.

5.1 Improve the Processing Efficiency of Image Information

The vigorous development of computer network technology has further promoted the process of informatization in China, and has also played a role in promoting the improvement of the degree of industry informatization, helping other industries to improve work efficiency. If you want to apply AI in computer recognition technology to the field of image recognition, it is necessary to improve

the processing efficiency of image information, accelerate the processing speed of image recognition data, and at the same time allow the system to obtain more relevant data to identify the image. With the development of computer network technology, in the process of image information acquisition and processing, the resolution of the image and related data capacity also put forward higher requirements. In the future development of image recognition technology, it is necessary to focus on intelligent image processing methods. We need to further improve the recognition accuracy and recognition speed of artificial intelligence image recognition, and apply the obtained data to other intelligent recognition processing modes, to help artificial intelligence recognition technology to identify more images and promote the improvement of efficiency and accuracy.

5.2 Focus on Breakthrough Multi-Dimensional Identification Processing

People's demand for image recognition is gradually growing, so it is necessary to make new requirements for the breakthrough direction of image recognition technology, such as realizing multi-perspective image recognition, to meet people's needs. With the breakthrough of computer network technology over the years, three-dimensional technology has been used in many fields, such as in some map software, and three-dimensional street view navigation has been used to further meet the daily needs of users. Therefore, to achieve new development in the highly competitive computer industry, it is necessary to optimize the hardware processing capacity of the computer, focus on breaking through the multi-dimensional image recognition processing, change the traditional recognition mode in the past, make the image recognition system more intelligent, and further upgrade the function of the image recognition system.

5.3 Actively Expand to the Application Field of Life and Production

Being able to apply to real life and provide convenience for life is the basic development requirement of every technology. With the continuous development of China's computer data processing capabilities and virtual reality technology research and development, the future application of artificial intelligence in recognition technology of computer image should be combined with other technologies such as video transmission technology to actively expand to other areas of life and production, so that image recognition technology is more life-oriented. In addition, artificial intelligence image recognition technology can also be applied to medicine, aerospace, military, communications, and other fields, promote the common development of other fields in China, and reflect the application value of AI image recognition technology.

In order to achieve the above points, it is necessary to optimize and upgrade the data processing effect and transmission efficiency of image recognition technology, so as to improve the quality and efficiency of image recognition, reduce the probability of problems and deviations in the image processing process, improve the accuracy of image recognition, upgrade the existing intelligent recognition technology in time, meet the relevant requirements of the use of AI image recognition technology in other fields, and provide more intelligent and personalized services for other areas of life and production.

6. Conclusions

In summary, in the process of intelligent upgrading of image recognition, it is necessary to realize the automation and intelligent processing of image information, so that the efficiency and quality of image recognition can be further improved. With the development of the new era and the advancement of computer network information technology, the idea of using artificial intelligence image recognition technology in various fields has gradually been realized. There are still many

technical bottlenecks and problems in this process. Relevant enterprises and institutions should actively face the existing problems, timely analysis, and solution, strengthen the technical investment in computer hardware, so that the level of intelligence has been further developed, and promote the progress of artificial intelligence in recognition technology of computer image.

References

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