

Explore the Application of Artificial Intelligence Technology in the Field of Film and Television Media

Lu Lu

Xianda College of Economics & Humanities Shanghai International Studies University, Shanghai 202162, China.

Abstract: In recent years, artificial intelligence technology has developed rapidly and has been further widely used in many fields, such as speech recognition, graphics, game design and so on. In the field of film and television media, artificial intelligence technology is also in its infancy. The combination of advanced technology and film and television art creation can not only stimulate the creativity of staff, but also meet the diversified requirements of the audience, so that they can fully experience the strong attraction produced by the combination of science and art.

Keywords: Artificial Intelligence Technology; Film and Television Media Field; Application

Introduction

Artificial intelligence technology and cutting-edge technologies such as network and big data analysis have attracted extensive attention. People actively integrate all kinds of advanced science and technology to ensure that artificial intelligence technology is more perfect. If China's Radio and television industry wants to further enhance its own strength, it must use the world's leading artificial intelligence technology to improve the quality of TV programs and meet the diversified needs of the majority of audiences. Artificial intelligence is also one of the hottest research aspects in the computer field in China in recent years. China's new generation of artificial intelligence research is constantly making significant development from the initial theoretical concepts to key technologies and then to the research of new products.

1. Concept of artificial intelligence

As early as the Dartmouth conference in 1956, the definition of artificial intelligence was clearly put forward. With the emergence of various emerging technologies and new applications, people pay more and more attention to the application of the new generation of artificial intelligence technology, and gradually expand its scope of use. Since 2012, deep learning algorithm and GPU have been paid attention to, which means that the computing power has been further improved and the technical level of artificial intelligence has been further improved^[1-2]. Generally speaking, artificial intelligence technology is still a part of machine learning technology, but due to the use of this technology, people can give machines more personalized ability, and also give machines the ability to solve problems creatively. It also enables machines to simulate certain human actions and even obtain some consciousness. The use of artificial intelligence technology can realize some repetitive work, thus reducing the labor intensity and labor time, so that people can have more energy to carry out technological innovation and artistic creation.

2. Application of artificial intelligence technology in film and television media

2.1 Algorithmic composition and lyrics

Combining AI technology with lyrics and music composition can better meet the needs of users. The traditional

algorithm for music composition and lyrics is mainly completed by genetic algorithm and expert system. In the independent creation of AmperMusic, users can also choose the appropriate music style according to their own preferences. After the preliminary composition work, and readjusting the song style, music melody and other contents, the secondary processing of music can be realized^[3]. In the traditional model composition, the quality of songs needs to be further improved. Because most of the traditional creation methods use fixed patterns to make songs, which makes the style of songs more rigid. But now, people can further improve the effect of generative model by using Generative Adversarial Nets in deep teaching method and reinforcement learning method^[4].

2.2 Smart microphone and caption generation

These two new functions completely break through the limitation between manual shorthand and manual dictation in traditional language. They only need to convert people's language into text content. The combination of artificial intelligence knowledge and the application of TV series and editing related technologies can effectively identify the language of TV series, so that it can directly produce TV series subtitles and reduce the labor intensity of technicians. Technicians only need to test the correctness of speech recognition. At present, CCTV is actively developing technologies related to speech recognition to establish a complete certification system and test the correctness of subtitles^[5].

2.3 Content production and program translation

By adding artificial intelligence in the process of news writing and production, we can achieve the efficient output of news information. Using artificial intelligence means to edit reports, or using specific artificial intelligence software, we can obtain real-time information to produce news. AI news mainly refers to capturing the key data information on the network through specific algorithms or natural language generators, and after structured processing, the predetermined news content can be achieved. The general way of TV translation is that special language personnel translate the scripts, then make subtitles, and transfer the content to the TV program, or special dubbing personnel dub the TV program^[6]. Although these means can improve the quality of TV programs, it will also spend a lot of time. The combination of artificial intelligence technology and the working principle of video translation can give full play to the advantages of computer learning ability and translation technology.

2.4 Program broadcasting and content push

In the field of news program hosting and live broadcasting, artificial intelligence technology can also be used to realize robot live broadcasting. As long as certain text information is entered in advance, an appropriate form of news live broadcast can be generated by itself, so that the automatic robot can also complete the news live broadcast like a real person. At the same time, users can also choose the sound line and emotion of the host at will, so as to fully meet the aesthetic requirements. However, the artificial intelligence network anchor is still unable to completely replace the real news host. Because the AI network anchor has no necessary emotion, although it will prevent problems in the process of live news broadcasting, it will also bring corresponding psychological discomfort to users. In content recommendation, a new generation of artificial intelligence technology can also be used to ensure that the recommended content is more targeted.

2.5 Content review

When engaged in TV program production, we must effectively screen the sensitive information content correctly, so as to ensure that the TV program can successfully pass the review. Therefore, the face recognition technology in artificial intelligence technology can be used to comprehensively identify the sensitive character features in the video picture, so as to judge whether the information content meets the requirements. At the same time, artificial intelligence technology can also make early warning according to the identified characteristic signals, so as to ensure that the content review staff attach great importance to internal review and determine the key points of information content review. Using the comprehensive identification information technology, we can effectively identify the sensitive information content such as scene and human

face features. We can get the corresponding identification information content only by extracting the label or identification information.^[7]

3. Characteristics in the application of artificial intelligence technology in the field of film and television media

3.1 Limitations of artificial intelligence technology in artistic creation

Although the new generation of artificial intelligence has its own advantages, it is impossible to try to completely replace people's minds with this method at present. Human brain function can be roughly divided into intelligence and consciousness. Using the characteristic of intelligence, people can classify, judge and manage information; With the help of consciousness function, people can have certain emotion. However, artificial intelligence and human brain technology are completely different. People can only complete some intelligent functions of human brain by using artificial intelligence technology, but it can not replace or simulate the consciousness of human brain. Although people can use reason to deal with many problems, they do not have a certain emotion for artificial intelligence, which also shows that its application in the field of film and television creation still has great limitations^[8].

3.2 Man-machine integration

Film and television creation can use artificial intelligence technology to realize music combination, video and music material production, subtitle compilation, and even use information technology to collect and integrate the information content reflected by the audience in an all-round way. In view of the certain defects of artificial intelligence technology in the application field of artistic creation, this technology cannot replace the functions of ordinary people in design, editing and so on. Most AI technologies are mainly used to complete complex work, which helps people reduce labor intensity and improve production efficiency.

3.3 Use AI in film and television

In the past, the most basic way for people to enjoy a film and television work is through the mobile phone screen or TV, or even in the theatre. But now, with the development of science and technology, with the guidance of the development of VR technology and the application of MR technology, the viewing experience of traditional film and television works have also been changed. In the future, people can create their favorite film and television through AR and VR technology. By using this artificial intelligence technology, film and television works can no longer become the exclusive property of one party, but can make the audience become a member of creation, making film and television art full of vitality.

Epilogue

The use of artificial intelligence technology can greatly improve the shooting and production quality of film and television products, improve the publicity and distribution efficiency of works, and maximize the cultural and economic value of film and television works. Although the use of artificial intelligence technology can carry out a lot of repetitive work, which greatly improves the efficiency, but this technology still cannot really replace the position of artificial in film and television creation. Therefore, people should study and improve the science and technology related to artificial intelligence. The film and television industry should realize the adjustment and transformation of industrial structure in the technological transformation, and carry out intelligent upgrading in the aspects of investment budget, script planning, crew management, lens shooting, editing production and publicity mode, so as to help comprehensively enhance the competitive advantage of China's film and television industry.

References

- [1] Sun, T., Application of artificial intelligence in the field of film and television media [J] News Research Guide, 2020, 11(21):253-254.
- [2] Zhang, HF., Application of artificial intelligence technology in the field of film and television media [J] Media Forum, 2019, 2(05):130.
- [3] Liu, Q., Application of artificial intelligence technology in the field of film and television media [J] Modern audiovisual, 2018(11): 25-29.
- [4] Sun, Y., Research on the application of artificial intelligence technology in the field of film and television media [J] Television technology, 2021, 45(11):153-156.
- [5] Yin, L., Research on the application of AI technology in the field of media -- Taking artificial intelligence anchor as an example [D]. Heilongjiang: Harbin Normal University, 2019.
- [6] Di, YP., Huo, LQ., Wang, LM., Exploration on the transformation practice of film and television media education in the era of artificial intelligence [J] Good world, 2020 (12):154.
- [7] Cao, SS., Sun, YS., Intelligent video application for film and television media industry [J]. News and writing, 2016(2):15-19.
- [8] Guo, XJ., Research on the application of artificial intelligence in film industry [J] Art technology, 2021, 34(8): 65-66,194.