

The Application and Impact of Artificial Intelligence Technologies in Film and Television Media

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ABSTRACT

With the continuous development of China's economy and society, the scope of scientific and technological research and its practical applications are constantly broadening, especially the popularization of Internet information technology, which has penetrated all aspects of people's daily lives and work. As a frontier science in information technology, artificial intelligence technology has played a certain role in promoting productivity and social progress. By introducing artificial intelligence technology, the film and television media, in addition to favouring its innovation and development, has also outlined a clear blueprint for developing the entire industry.

KEYWORDS

Artificial intelligence; Film and television media; Intelligence

1 The significance of the application of artificial intelligence technology in the film and television media

The application of artificial intelligence technology in film and television media has further improved production efficiency ^[1]. The traditional film and television production process is cumbersome and time-consuming, and the introduction of artificial intelligence technology makes it possible to automate many tedious tasks. For example, through advanced AI technology models, high-quality virtual scenes, characters and actions can be generated in a short period, which in turn reduces the time and labour costs of special effects production. At the same time, AI technology can also automate part of the editing and post-processing work, such as colour correction, audio adjustment, etc., which is conducive to shortening the production cycle of film and television works, so that the production team will spend more time and energy on polishing the details of the work, and improve the overall quality of the work.

In addition to providing intelligent aids for writers, directors and other creators, AI technology can help them quickly generate a variety of solutions and select the best ideas but also analyze massive data to generate novel ideas and works, which is conducive to broadening the creative space of creators and making film and television works more diversified in terms of content, form and style. At the same time, AI technology can also simulate and learn from the human creative process, generate film and television works with unique styles and emotions, bring a new viewing experience for the audience, and then enhance the artistic value of film and television works based on promoting the innovation and development of the film and television industry.

The application of artificial intelligence technology in film and television media is promoting the upgrading and transformation of the whole industry ^[2]. With the continuous development of artificial intelligence technology, traditional film and television production methods have been impacted, prompting the transformation of the whole industry to digitalization. Based on this background, film and television works can be disseminated and shared more quickly, and viewers can access and watch film and television works more conveniently. Moreover, the application of artificial intelligence technology has also brought new business models and profit opportunities for the film and television industry, such as intelligent recommendation systems and personalized marketing.

2 Analysis of the current situation of the combination of film and television media and artificial intelligence technology

With the increasing maturity of artificial intelligence technology, it has been widely used in the field of film and television media. Observing the current situation, the application of this technology in the film and television media industry is mainly reflected in the creation of mapping, music, lyrics and translation of program content and other aspects ^[3]. In terms of specific operations, the production efficiency of film and television media works can be improved by simulating various business activities and content editing work through artificial intelligence algorithms. In the lyrics creation stage of film and television media works, the AI system analyzes and learns a large number of literary works in depth, and conducts clever combinations and in-depth analysis of words to provide apt "language" expression for the works, which is quite similar to the working principle of the popular "poetry generator" on the Internet. This mechanism is

quite similar to the working principle of the popular "poetry generator" on the Internet. In terms of music creation, AI systems analyze and learn from a wide range of musical works with the help of specific algorithms, imitate and innovate, achieve fine editing of tracks, and ultimately create AI-generated musical works. Overall, the current use of artificial intelligence technology in China's film and television media industry is still in the initial stage of development, but with the continuous upgrading and optimization of this technology, its application in the field of film and television media will be more in-depth and is expected to provide strong support for the further development of China's film and television media industry.

3 The application of artificial intelligence technology in the film and television media measures to analyze

3.1 Application in the music creation of film and television media works

With the rapid development of the film and television industry, the application of fusion expert systems and genetic algorithms has become increasingly mature and has achieved good results in the creation of actual film and television works. Taking the music creation of film and television media works as an example, the application of artificial intelligence technology in the field of composition and lyrics has greatly improved the efficiency and creative results, realizing the intelligent creation of music and lyrics for film and television works. When artificial intelligence technology is introduced, automated music creation software such as AI Music Composer can be used to complete intelligent music arrangement work by combining the personalized preferences and artistic styles of creators. This kind of software can create corresponding music and lyrics according to the emotional rhythm of film and television content, realizing the synchronized intelligent processing of composing and lyrics ^[4]. With the support of artificial intelligence technology, it not only shortens the creation process, but also ensures that the work is more in line with the overall style and emotional expression of the film and television works, and truly realizes the automation and intelligent creation of lyrics and music.

3.2 Application in the painting of film and television media works

In the production process of film and television media works, painting is a key link. The traditional painting of film and television media works, mainly combines manual drawing and computer-aided design, but the use of computers usually involves a preset premise, i.e., it is necessary to make a composition first, which is not only inefficient, but also prone to errors, and once the drawing results fail to meet the requirements of the film and television works, the creators may have to start from the beginning again. To solve the above pain points, film and television creators began to actively explore the way of innovation, and eventually succeeded in introducing artificial intelligence technology into the creative process. After years of development and practice, AI technology has realized deep integration with the field of art painting. Take the AI painting program developed by Deep Mind as an example, which has now become one of the indispensable painting tools in movie production ^[5]. The program has excellent drawing capabilities and can intelligently design the composition according to the specific needs of the film work, such as colour, pixel images, background and other elements, and its built-in neural network technology-driven image parser can deeply analyze the image features, accurately identify and optimize each detail in the image. Therefore, it shows excellent performance in image processing, and even in the optimization process, it can quickly disperse and reorganize the image elements to efficiently meet the diversified creation needs of modern film and television works.

3.3 Application in the production of special effects in film and television media works

At this stage, the application of artificial intelligence in the audiovisual industry is becoming more and more mature. With the help of artificial intelligence technology, computer-generated images (CGI), virtual reality (VR) augmented reality (AR) and other effects can be realized. Artificial intelligence technology can deeply analyze various elements in the scene, including the human body, environment and light, and create high-quality visual effects and animations based on these analyses, such as realistic flames, explosions and particle effects, etc., which in turn allow fictional objects to seamlessly integrate with live-action video content, as well as create transcendent visual effects, which are conducive to enhancing the audience's sense of immersion and the film's visual appeal. Taking the innovative advertisement released by Coca-Cola on March 15, 2023, as an example, the advertisement adopts Stable Diffusion technology in the field of artificial intelligence, an AI painting software specialized in image, audio and video processing. With the help of this technology, the advertisement successfully realized a high-precision digital restoration of the world's famous paintings and allowed many famous paintings to be vividly presented in a dynamic form, which quickly attracted widespread attention and praise in the advertising industry with such innovation. Mr. Zhan Kunjie, Chairman of the Board of Directors of The Coca-Cola Company, said that the potential of the beverage industry has yet to be explored and to capitalize on these

opportunities, brands need to be precise in their execution, and the pursuit of innovative marketing is crucial to achieving such high-quality brand execution. He also believes that AI technology will be the next innovative marketing trend and is expected to bring new impetus to the Coca-Cola brand, leading the AI trend and enhancing the overall strength of the brand ^[6].

3.4 Application in the generation of subtitles for film and media works

Subtitles are one of the core elements in film and media works, and the production of subtitles is also an indispensable part of editing work, but the generation of subtitles is a time-consuming and laborious task. In recent years, with the widespread popularization and continuous progress of AI technology, editors have begun to explore the integration of AI technology into the process of subtitle production. For example, using a cell phone equipped with a smart microphone, combined with a smart subtitle generation app with speech-to-text capabilities, the microphone captures speech and transmits the recording to the software's built-in smart speech parser. Once the speech is parsed, the program automatically converts it into textual information and makes the necessary adjustments according to the context, ultimately generating the appropriate textual material. After the text is generated, it will be used by the front-end display module to configure subtitles, thus eliminating the tedious subtitle production process in traditional post-production and improving the speed of subtitle generation.

3.5 Application in the distribution and publicity of film and television media works

There is usually a distribution and publicity stage before a film or television media work is put on the market, and it lasts for a long time. This stage will cost a large part of the funds for the entire work and is very susceptible to the venue and weather. The use of artificial intelligence technology to complete the distribution and publicity work can reduce the burden on production staff and reduce capital investment. The reason is that artificial intelligence has a huge amount of big data on the Internet, which can profile the audience of the whole work and analyze the audience, and then put it in the area where the interested people gather many times, combine the current hotspots of people's attention with film and television publicity, firmly grasp the eyes of the crowd, and ultimately strengthen the effect of publicity.

4 Conclusion

In summary, although artificial intelligence can not completely replace the role of human beings in the field of film and television media, the continuous progress of artificial intelligence technology is gradually becoming an important trend to support the creation of film and television media workers. Therefore, only by closely combining AI technology with film and television media and making full use of this opportunity can we realize deeper development in this field.

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