Artificial intelligence generates content: a new driving force for reshaping the film and television media industry

Jiarui Yuan

School of Shanghai Donghai Vocational and Technical College, Minhang Shanghai, 200241

Abstract

AI generated content, as an emerging force, is reshaping every aspect of film and television production, content creation, and dissemination. It can efficiently produce diverse scripts, dialogues, and scene designs, and accurately locate audience needs through data analysis, thereby promoting the personalization and customization of film and television works. This article aims to explore in depth the application and impact of AI generated content in the film and television media industry, in order to provide useful references and inspirations for the future development of the industry.

Keywords

AI generated content; Film and television media industry; remodeling.

The traditional mode of film and television creation and dissemination often relies on the individual talents and teamwork of creators, while the introduction of AI technology has added unprecedented intelligence and efficiency to this process. It can assist creators in script writing, character design, scene construction and other preliminary work, and also provide precise technical support such as image processing and sound synthesis in post production.

1. The Rise of Artificial Intelligence Generated Content (AIGC)

As a cutting-edge technology in the field of artificial intelligence, AIGC's core lies in utilizing advanced algorithm models such as Generative Adversarial Networks (GANs), Variational Autoencoders (VAEs), and the recently highly anticipated Diffusion model to achieve automation and intelligence in content creation. The historical origins of this technology can be traced back to the mid-20th century, but it truly entered the stage of rapid development and widespread application after significant breakthroughs were made in deep learning technology. The rise of AIGC not only greatly expanded the boundaries of content production, but also triggered profound changes in multiple industry sectors. In the media and entertainment industry, AIGC technology, with its powerful content generation capabilities, is gradually changing the traditional content creation model. For example, it can automatically generate personalized news releases, video content, and even create music and art works with unique styles based on user preferences, greatly improving the efficiency and personalization level of content production[1].

2. AIGC Reshaping of the Film and Television Media Industry

2.1. Innovation of Content Creation Strategies in the Early Stage of Film and Television

In the past, production companies or teams had to invest a lot of time and resources to collect and analyze audience preferences, market trends, and other information through surveys, focus group discussions, and other methods, in order to determine project topics and target audiences. This process is not only time-consuming and laborious, but also susceptible to subjective judgment. Nowadays, AIGC can quickly generate detailed and creative project planning solutions through deep learning of a massive number of high-quality planning cases, combined with precise insights into the current audience's viewing psychology. These solutions not only cover the latest achievements in market analysis, but also integrate AI's accurate prediction of potential audience demand, ensuring that the project has high market adaptability and competitiveness from the starting line.

AIGC's text generation capability has demonstrated its disruptive potential in the script creation process. Traditional script creation relies on the inspiration, experience, and creativity of the screenwriter, while AIGC achieves deep integration and innovative application of cross disciplinary knowledge through its vast material library and logical reasoning ability. It can analyze and summarize massive scripts, successful cases in film and television dramas, classic literary works, and even celebrity anecdotes, extracting the essence of story framework, plot patterns, and character shaping from them[2]. On this basis, AIGC can automatically generate story summaries and script outlines based on keywords or core dramatic conflicts provided by creators, and further refine and generate film and television scripts with unique styles and plots. For example, the Dramatron AI writing model developed by DeepMind can automatically generate a complete film and television script containing script titles, character settings, plot development, scene descriptions, action details, and dialogue content with just a short "one sentence summary", showcasing the infinite possibilities of AIGC in the field of script creation.

However, AIGC's contribution goes far beyond that. After the script is generated, it can also utilize its powerful analytical capabilities to conduct in-depth analysis and evaluation of the quality of the script. This process not only involves considerations of traditional script evaluation dimensions such as plot structure, character development, and plot compactness, but also introduces an objective data analysis model based on big data and artificial intelligence algorithms. Taking the "Online Script Intelligent Evaluation 4.0" service launched by Haima Qingfan as an example, this service uses an AI training set based on millions of novels and hundreds of thousands of scripts, starting from multiple dimensions such as plot attractiveness, scene settings, and character settings, to conduct comprehensive and three-dimensional in-depth analysis of scripts[3]. This evaluation method not only provides detailed improvement suggestions and iterative directions for screenwriters, but also greatly enhances the commercial potential, artistic value, and cultural connotation of the script.

2.2. Innovation of mid-term filming methods in film and television

As the core stage of film and television content production, the traditional mode of filming is gradually being reshaped by AIGC technology. This trend not only improves filming efficiency, but also broadens the boundaries of film and television creation, enabling film and television works to be presented to audiences in unprecedented ways. At the management level of film and television shooting, the introduction of AIGC technology enables intelligent management of shooting tasks, greatly optimizing resource allocation and process control. By updating the division of labor and

tasks of the production team members in real-time, AIGC can automatically generate dynamic time schedules and shooting notices, ensuring efficient and orderly collaboration among departments[4]. This feature not only improves the operational efficiency of the filming site, but also enables directors and producers to more accurately control the filming progress and respond to various emergencies in a timely manner. AIGC technology also plays an important role in the development and optimization of shooting plans. Through in-depth analysis of script and scene requirements, AIGC is able to simulate different camera rehearsals to provide directors and cameramen with various creative shooting solutions.

In terms of scene construction, the application of AIGC technology has brought revolutionary changes to film and television creation. Traditional film and television special effects production often requires a lot of time and resources, and the introduction of AIGC technology has made this process more efficient and convenient. Film and television special effects personnel can perform digital modeling based on the scene data collected in the early stage, and integrate actors' on-screen performances with digital simulation scenes through real-time image extraction technology to create realistic and imaginative dynamic virtual scenes. At the same time, AIGC's vast database resources also provide rich digital assets for film and television creation. Through artificial intelligence synthesis technology, production teams can turn fantasy scenes that cannot be filmed on site or are costly into virtual scenes, greatly expanding the space and possibilities of film and television creation. Taking the domestic sci-fi masterpiece "The Wandering Earth" as an example, a large number of stunning scenes in the film were virtually generated through AI technology. These scenes are realistic and delicate, full of imagination and technology, bringing unprecedented visual experiences to the audience[5].

2.3. The Innovation of Post production Mode in Film and Television

In the video editing process, the introduction of AIGC technology has completely changed the traditional working mode. Relying on a vast database and advanced algorithm computing power, AIGC can efficiently process massive amounts of video materials, accurately locate key elements such as characters, scenes, and actions through automatic analysis and recognition technology, and automatically label them, greatly facilitating editors' quick retrieval and screening of vast materials. The application of AIGC technology in special effects production and color correction is equally impressive. It can accurately detect and repair defects such as noise, jitter, and blur in videos, effectively saving technical regrets during the shooting stage. It can also significantly improve image resolution and texture through advanced image processing algorithms, making film and television works present more delicate and realistic visual effects. Taking the domestically developed "China Film · Shensi" system as an example, the system successfully repaired up to 300000 frames of low definition image materials in "Amazing, China" within just four months, demonstrating the outstanding ability of AIGC technology in improving the quality of film and television works. In addition, AIGC can also achieve complex color correction and special effects addition. Through fine parameter adjustment and algorithm optimization, the film and television works can achieve the best state in terms of color, contrast, brightness, etc., thereby enhancing the visual experience and artistic enjoyment of the audience. It is worth mentioning that AIGC technology can also achieve flexible adjustment of actor image and performance through AI face changing, costume changing and other technical means, providing more possibilities for the creation of film and television works.

The application of AIGC technology is equally significant in the fields of speech recognition and subtitle generation. It can accurately recognize the voice content in videos and automatically generate high-quality subtitles, greatly improving the efficiency and accuracy of subtitle production. In addition, AIGC can also achieve intelligent synthesis of multilingual subtitles and synchronization of audio and image, providing strong support for cross language communication. Taking Flawless' TrueSync system in the UK as an example, this system utilizes AI technology to accurately adjust the lip syncing issue in cross lingual dubbed films, seamlessly integrating actors' lip movements with the dubbed language, greatly enhancing the viewing experience of dubbed films. The emergence of this technology has provided convenience for the international dissemination of film and television works, and has also built new bridges for cross-cultural communication and understanding.

3. Conclusion

In summary, the generation of content by artificial intelligence has become an important force driving the transformation of the film and television media industry. It not only innovates the traditional mode of film and television creation, improves the quality and efficiency of works, but also provides strong support for the precise positioning and promotion of film and television works through data analysis and other means.

Reference

[1] Liang Guodong Research on the Impact of Artificial Intelligence Generated Content on Animation Creation [D]. Jingdezhen Ceramic University, 2024

[2] Zhang Lanshan, Xu Aitong Transformation and Reconstruction: The Application and Challenges of Sora in Film and Television Creation [J]. China Television, 2024, (04):84-91.

[3] Liu Qian, Li Jing Exploring the Application of Generative Artificial Intelligence in the Field of Media [J]. China Media Technology, 2023, (08):6.

[4] Xiao Yefei Media Applications, Communication Reconstruction, and Risk Avoidance of Artificial Intelligence such as GPT-4 [J]. Media Forum, 2023, 6 (06): 4-8

[5] Xu Biwen Design of Huawei Image Intelligent Generation System [D]. Hunan University, 2020