

Empowering New Cultural Program Explorations with AIGC in the Intelligent Media Era

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Abstract: As an important tool for media ecology from "media integration" to "human-machine integration", AIGC is serving the production of cultural programs in various forms. However, because of the contradiction between "mechanical consciousness" and "human civilization", the phenomena of impacting ideology, forming information cocoon and violating intellectual property rights have gradually appeared, preventing it from empowering the production of cultural programs. This paper argues that media organizations can change the current status quo by ensuring human-machine integration, forming Chinese aesthetics, restricting mechanical awareness, and constructing systematic engineering, and realizing the innovative development of AIGC enabled cultural programs.

Keywords: AIGC; Cultural programs; Human-computer integration; Ideology; Information cocooning

1. Introduction

In the era of smart media, artificial intelligence is developing rapidly, and some technologies are gradually applied in the media industry, which has a greater impact on the media industry. From Web 2.0 to Web 3.0, due to the addition of artificial intelligence, the media content creation model has gradually shifted from UGC, PGC, OGC to AIGC, and AI empowers media development. At present, AIGC has been applied in planning, production, content production and other aspects of cultural program production and the effect is beginning to show, for China's cultural program innovation and development of "invisible wings". As a big data training model, AIGC brings high convenience and low cost to program production, but the contradiction between "mechanical consciousness" and "human civilization" makes it not completely safe to be applied to cultural programs. This paper analyzes the effectiveness, defects, and risks of the application of AIGC in the current cultural programs, combines the characteristics and attributes of AIGC itself, and explores the new solution of AIGC empowering the innovation and development of cultural programs.

2. Current status of AIGC cultural program application

2.1. Effectiveness

2.1.1. New changes in program production

AIGC (Artificial Intelligence Generated Content) is a new way of content production that automatically generates various forms of content, such as articles, news, pictures, music, videos, etc., through artificial intelligence, utilizing technologies such as big data, machine learning and natural language processing (NLP).^[1] As a special type of cultural program that requires both "depth" and "breadth", AIGC, through its powerful algorithms, provides comprehensive information for the program and becomes a database for program creation, which increases convenience, improves efficiency and reduces costs. By learning a lot of Internet data, AIGC can easily capture human information needs and find the audience orientation, thus assisting program producers to create more targeted, personalized and intelligent program content and empowering the dissemination of cultural programs.

AIGC not only assists program production in text production, but also gradually integrates "text-to-picture" and "text-to-video" into the program, so that the program producer's ideas can be easily reflected into reality, and pictures and videos can appear by inputting the relevant textual commands, which not only reduces the workload of the producer but also allows the audience to more intuitively feel the charm of culture. This not only reduces the workload of program producers, but also allows viewers to more

intuitively feel the charm of culture. Moreover, with the gradual application of AIGC in cultural programs, the program production process is gradually changing, from the previous topic selection, research and planning to today's AIGC directive Q&A, which saves a lot of costs and improves efficiency.

2.1.2. User perception enhancement

As an emerging media technology, AIGC obtains multimedia data based on its generative multimodal ultra-large-scale language model, which empowers the creation of cultural variety shows with multi-genre and multi-state audiovisual content.^[2] For example, the "2024 CCTV Spring Festival Gala" utilizes AIGC to automatically generate vertical screen content, and the vertical screen scenario, with an increased ratio of medium, close-up, and close-ups, also allows viewers to get a more stunning visual experience.

In terms of program format, the digital hosts generated by AIGC technology collaborate with actual hosts to co-present cultural programs. This combination enhances the program's overall richness by blending the unique style of the actual hosts with the novelty and in-depth knowledge of the digital hosts. This partnership not only opens up new possibilities for cultural program hosts but also increases audience engagement and freshness.

2.1.3. Enhanced program quality

2019 "CCTV Network Spring Festival Gala" in the digital virtual host "Little Spread" and Bening hosted together, through the virtual host of realistic appearance, action, language, so that the host and the virtual host to form a good interaction, with this way to make the scene lively, enrich the form of the program, increase the effect of the program, enhance the program experience.

As the first AIGC literate video cultural program of CCTV, "Ode to a Thousand Autumn Poems" relies on CCTV's big model of audio-visual media, model training based on the rich audio-visual data provided by CCTV, and comprehensively applies AI technologies such as controllable image generation, character dynamic generation, literate video, and so on, to transform more than 200 poems in the unified language teaching materials of the country into a beautiful national style animation.^[3] Culture comes alive because of AIGC.

The 2024 CCTV Spring Festival Gala" uses AIGC technology to build virtual scenes in staged cultural programs, turning abstract words into figurative stages, creating more visual presentations, making the audience more immersed in the ideas and content conveyed by the program, and allowing the audience to easily comprehend the connotations and meanings of culture.

2.2. Deficiencies

2.2.1. Lack of technological maturity

AIGC, as an emerging technology that empowers the production of cultural programs, is currently and will be in the "break-in" stage for a long time. Its powerful algorithm can train the data about Chinese culture better, so that it can express the meaning of culture faster and more comprehensively, but in the real application process, because the source of the data trained by AIGC may be inaccurate and not authoritative, which will lead to the generation of content that may be incorrect, which may lead to the program broadcasting accident and mislead the audience.

In cultural programs, viewers generally have "high cognition", "strong understanding" and "big preconceptions" of their own culture, and when the effect of the program does not meet the audience's expectations, it will greatly reduce the ratings of the program and the dissemination of culture. When the effect of the program does not meet the audience's expectations, it will greatly reduce the ratings of the program and the dissemination of culture. Due to its lack of maturity, AIGC results in raw text and unrealistic video effects. Additionally, the limited use of close-ups and lack of detailed shots create a 'cultural illusion' in the current state of production. While the intent of the AIGC application was good, the inexperience of integrating the technology with the program led to bad results such as abruptness, artifacts, and dissonance.

2.2.2. The program is not what it seems

In the age of smart media, AIGC should be used as a tool for empowerment, not as a shield to hide behind.

The use of AIGC has made the program more "opulent", with more of a new look, but less of the old depth. The first impression brought by the program to the audience is often fresh and shocking, but

whether this shock can be more sustainable depends on the "temperature and depth" of the content of the cultural program. Although culture is intangible, cultural programs can make it tangible, but the misuse and abuse of technology has resulted in the tangible seeming intangible.

In cultural program production, program producers apply AIGC more on cost reduction, efficiency improvement and surface innovation, but often do not use AIGC's powerful algorithms to dig out more deep cultural contents, so as to present a comprehensive and three-dimensional Chinese culture to the audience. Is it possible to describe more details, so that AIGC can make China's story "warm" and vivid, not only in a glimpse, but also more warm moments. Without the emotional depth that technology alone cannot provide, cultural programs struggle to truly engage the audience and achieve strong dissemination.

2.2.3. Insufficient human resources

From the traditional media era of 'you listen to me,' to the Internet era where users actively 'find my favorite' through search engines, and now to the mobile Internet era with intelligent recommendation algorithms that 'guess my favorite, there has been a significant evolution. In the AIGC era, generative AI will also lead to "know what I like" content consumption experiences.^[4] If media organizations continue to apply themselves to the age of smart media in the same way as traditional media, they will have a hard time keeping up with the current pace.

At present, because AIGC technology has not really penetrated into people's hearts, even media workers have reservations about it. The lack of conceptual change has caused many media organizations and media people to be reluctant to try it, resulting in a gradual shortage of media organizations that originally had many potential talents. Moreover, there are very few people in the relevant professions who know both AIGC and cultural programs, which ultimately leads to the current situation of insufficient human resources.

2.3. Risks

2.3.1. Forming an information cocoon

With people browsing numerous platforms and websites, 'information traces' have become the norm in the Internet era. With its powerful algorithms, artificial intelligence can easily analyze audience preferences from extensive browsing data. This allows for the creation of 'customized programs' that trap audiences in their own 'echo chambers.' The audience steps into their own "echo chamber".

Culture needs to be diversified, and cultural programs need to be enriched; AIGC, as a link in the production of cultural programs, will lead to a narrower analysis because of the phenomenon of "information cocoon", which will result in less audience demand analyzed by AIGC, and lead to a thin output of the programs, and will not be able to realize the wish of bringing culture into thousands of households.

2.3.2. Infringement of intellectual property rights

In human civilization, culture and writing are copyrighted. With the extensive use of AIGC technology in cultural programs, AIGC-driven copyright protection disputes are occurring around the world. On January 5, 2024, well-known American authors Nicholas Basbern and Nicholas Gage filed a class action lawsuit in the Federal District Court in Manhattan, New York. They allege that Microsoft and OpenAI, a U.S. artificial intelligence company, used information from their books without a license. The authors are seeking damages for what they claim is the 'theft' of their work, which was used to build a multibillion-dollar commercial network by training artificial intelligence products, including the chatbot ChatGPT, with their content.^[5]

Copyright protection is an unavoidable issue in our country, not only abroad. AIGC gradually penetrates into the creation of cultural programs, because AIGC is created according to the instructions of the program producer, and the data integration during data training of the big model is diversified and complex, to a certain extent, there is no original creator in the traditional sense, resulting in AIGC-created content, even though sometimes infringement of copyright attribution can not be defined. China's intellectual property protection about AIGC is still in the primary stage, about the cultural programs applying AIGC in the program, how not to happen the property right contradiction, how to correctly and reasonably use AIGC has become the problem that needs to be solved at present.

2.3.3. Assault on ideology

As a window for the expression of the country's civilization and ideas, cultural programmes are a

good way to promote the country's culture. But when culture is combined with artificial intelligence, some problems arise. As an artificial intelligence product, AIGC faces challenges in ensuring that all its outputs align with China's socialist core values due to the diversity and complexity of training data sources. It is difficult to guarantee that every piece of data is authoritative and reliable. Additionally, since AIGC training involves foreign data, it is even harder to ensure that all content outputs conform to Chinese aesthetics and are free from excessive Western cultural influences.

In addition, AI lacks the social awareness and moral judgment inherent in humans, which easily leads to the inability of AI to consider ethics and humanistic concerns as deeply as humans do when dealing with complex situations involving morality and ethics.^[6] If AIGC is applied to cultural programs without "humanistic concern" and correct "values", it will indirectly make the cultural programs become cold and rigid.

3. A new look at the future of AIGC's cultural programs

3.1. Ensure human-machine integration

McLuhan famously proposed the theory that 'the medium is the extension of man.' If we narrowly define media as machines, then artificial intelligence represents an extension of intelligent machines to human intelligence.^[7] Artificial Intelligence, as an emerging technology in the era of Web 3.0, has the ability to be applied in the production of cultural programs through its repeated training and learning of data, which can efficiently pick up and effectively link all Chinese databases. Media organizations should use it to "free their hands" and change the content of their work from manual labor to intellectual labor.

However, in terms of the current application of AIGC to the production of cultural programs, cultural programs are also "conditional" and not completely dominated by AIGC. The content of the program is handed over to AIGC on the premise that the complete running program is set up manually, which means that the "human" still occupies the main position in the "human-machine integration". When generative AI develops rapidly, when more and more cultural programs are produced by AIGC, and when machine intelligence and human intelligence "go hand in hand", human instincts will drive program producers to make "less laborious" choices. When the production of cultural programs relies too much on artificial intelligence, will the most essential core of cultural programs, "human-machine", still think? When advanced technology is infinitely close to the production of cultural programs, we must be sober enough to realize that cultural programs are for the audience and serve people, and that pursuing the tentacles of technology to ultimately connect with human nature is really the right answer for us. Producers of cultural programs should arm their brains to ensure a continuous flow of innovative cultural ideas, and use human consciousness and AIGC's science and technology to jointly build a solid kernel of cultural programs to ensure that human-machine integration develops in depth.

3.2. Developing a Chinese Aesthetic

Cultures and civilizations distinguish borders, but the sources of big data are diverse and complex. In the context of human-machine integration, how to make "AIGC China" is a problem that needs to be solved at the technical level. At this level, relevant cultural program production organizations can screen the data sources of AIGC's big data training model and then integrate the training to empower cultural program production. For example, we can input and train all the high-quality video materials of Chinese cultural programs, and also train the ancient Chinese classics, literary works and contemporary online content, so as to form a "specific AIGC" dedicated to Chinese culture, and when the content producer inputs the relevant commands, it can output the relevant cultural program content with high quality, accuracy and speed, and with Chinese characteristics and Chinese aesthetics. When content producers input relevant commands, they can output relevant cultural program contents with Chinese characteristics and aesthetics, which are more in line with the audience's expectation of Chinese cultural programs, thus making AIGC serve the innovative development of cultural programs.

Technology is the aid, "people" are the key. Producers of cultural programs should also cultivate "Chinese aesthetics", and through "reading thousands of books" + "traveling thousands of miles", they should look for the source of cultural innovation and development, and explore the common Chinese cultural identity in people's hearts. Through "reading thousands of books" + "traveling thousands of miles", we should search for the source of living water for cultural innovation and development, and explore the common self of Chinese culture in people's hearts, so as to truly realize the "human-machine fusion" production mode of "specific AIGC" + "Chinese aesthetics" in the production of cultural

programs.

3.3. Limiting Mechanical Awareness

Although AIGC, as a product of artificial intelligence, can efficiently support the production of cultural programs, it is still a machine. Cultural programs require not only diverse content but also a nuanced understanding that includes rigor, accuracy, and warmth. AIGC, being a mechanical tool, lacks the human consciousness necessary to fully achieve these qualities. But AIGC, as a mechanical tool, does not have human consciousness.

Therefore, the producers of cultural programs should do a good job as the artificial "gatekeepers" of AIGC, and use their own knowledge and knowledge to output instructions reasonably and effectively, avoiding the wrong command or over-utilization of AIGC to cause a loss of control of the mechanical consciousness of the situation. Not only should we learn to input reasonable instructions, there should also be a set of strict audit mechanism, for the program content of AIGC participation, it is necessary to control the ideological concepts conveyed, but also the type and kind of content generated by it, to avoid the re-emergence of the "information cocoon". Only by being a good gatekeeper can AIGC really serve in the production of cultural programs.

3.4. Building Systems Engineering

Currently, AIGC has been applied in the production of cultural programs, and the updating of the technology and the expansion of the market in the future will require more relevant technical personnel to join and establish the AIGC model for media organizations. This is the only way to solve most of the status quo of generating content without characteristics, generating videos without details, intellectual property rights without protection, and ideology without control as soon as possible at the technical level.

CCTV, as the first media organization to build an artificial intelligence studio, integrates the resources of its radio and television broadcasting and new media platforms, accelerates the research of AIGC core technology and the development of innovative applications, and trains the "CCTV Audiophile Media Model" in accordance with the needs of program production to create a platform for the innovation and creation of audiovisual programs. On March 27, 2024, the Artificial Intelligence Studio of China Central Radio and Television (CCTV), in collaboration with the Yuan Universe Culture Laboratory of Tsinghua University's School of Journalism and Communication, launched Chinese Mythology, whose art, subplot, video, voice-over, and soundtrack were all done by AI. The establishment of the Artificial Intelligence Studio and the construction of the "CCTV Listening Media Model" are systematic projects to promote the empowerment of AIGC's cultural programs.

4. Conclusions

Currently, AIGC has gradually integrated cultural program production and media organizations should accept it and embrace the change. Although facing problems such as impacting ideology, forming information cocoon and infringing intellectual property rights, program producers can achieve innovative transformation and innovative development in the future by "reading thousands of books" + "traveling thousands of miles", and by applying the "human-machine integration" production mode of "specific AIGC" + "Chinese aesthetics", so that AIGC can truly empower cultural program production. However, through program producers' "reading thousands of books" + "traveling thousands of miles", and through the "human-machine fusion" production mode of "specific AIGC" + "Chinese aesthetics", China's cultural programs can realize innovative transformation and development in the future, so that AIGC can truly empower the production of cultural programs.

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