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Research on the Application of AIGC Technology in the Creation of New Media Visual Works

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Abstract: *The rapid iteration of Artificial Intelligence Generated Content (AIGC) has reshaped the creative logic, production processes and communication forms of new media visual works. Traditional creation modes such as hand-painting, on-site shooting and post-production suffer from low efficiency, high technical barriers and limited creative productivity. With core functions including text-to-image, image-to-image, intelligent image retouching and style migration, AIGC has penetrated the whole process of new media visual creation. It effectively cuts creation costs, improves production efficiency and expands the boundaries of artistic expression. Combined with the practical experience of the new media industry, this paper sorts out the application scenarios of AIGC in creating posters, graphic works, AI comics, dynamic visuals and panoramic images. It also analyzes the advantages and existing drawbacks of the technology. From the perspectives of workflow optimization, human-computer collaboration, copyright governance and ethical norms, this paper puts forward targeted optimization strategies. The research aims to provide theoretical references and practical suggestions for new media practitioners to properly apply AIGC and realize the in-depth integration of technology and art.*

Keywords: *AIGC, New Media Vision, Work Creation, Human-computer Collaboration, Copyright Ethics*

1. Introduction

With the comprehensive popularization of digital media, the new media industry has entered a period of rapid development. Visual works have become core content carriers for government publicity, cultural tourism promotion, commercial marketing and mass entertainment. Posters, graphic articles, AI comics, dynamic icons, promotional pictures and panoramic visuals enjoy strong intuitiveness and communication power, and occupy an important position in the new media content ecosystem. However, traditional visual creation mainly relies on manual painting, camera shooting and professional post-production software. It is time-consuming and labor-intensive, requiring creators to possess solid artistic skills and proficient software operation capabilities. Ordinary practitioners struggle to deliver high-quality visual works, resulting in a widespread contradiction between surging content demands and insufficient creative productivity in the industry.

Driven by large language models and diffusion models, AIGC tools represented by Stable Diffusion, Midjourney and Keling AI have achieved intelligent conversion among texts, images and styles. They simplify the complex workflow of visual creation and accelerate the transformation of creation modes from manual dominance to human-computer collaboration. According to industrial research data, AIGC can reduce the average creation time of conventional new media visual works by more than 60% and greatly lower the production cost of high-definition visual content, realizing the popularization of visual creation[1].

Nevertheless, the rapid popularization of AIGC has also brought a series of challenges. The prevalence of homogenized works, weakened originality, frequent copyright disputes, aesthetic defects and value deviations of AI-generated content, as well as the over-reliance of creators on technology have become major obstacles to the sound development of the industry[2]. From the perspective of new media art creation, this paper systematically explores the application forms, values and existing problems of AIGC, and proposes corresponding development strategies, so as to help the industry build a healthy creative ecosystem featured by technology empowerment, art orientation and standardized development.

ISSN 2616-7433 Vol. 8, Issue 2: 87-92, DOI: 10.25236/FSST.2026.080212

2. Definition of Core Concepts and Technical Principles

2.1 Core Concepts

2.1.1 Artificial Intelligence Generated Content (AIGC)

AIGC refers to a technical system that generates brand-new texts, images, audios, videos and other contents independently based on large models, diffusion algorithms and generative adversarial networks. This research focuses on visual AIGC, which covers text-to-image, image-to-image, intelligent retouching, style migration and dynamic content generation. It is the most widely applied branch in current new media creation[1].

2.1.2 New Media Visual Works

New media visual works refer to digital creations tailored for new media communication scenarios, which take visual elements as the core and serve information transmission, brand promotion and cultural dissemination. They are divided into three categories: static visuals (posters, illustrations, icons), dynamic visuals (dynamic posters, AI comics, short video covers) and immersive visuals (panoramic images, interactive visuals). Such works are characterized by lightweight design and multi-scenario adaptability.

2.2 Basic Principles of Visual AIGC

Most mainstream visual AIGC tools adopt diffusion models as the underlying framework. The working mechanism consists of four stages: model training, instruction parsing, content generation and detail optimization. Firstly, the model learns visual rules including colors, compositions, painting styles and scene layouts through massive images and design works in datasets. Secondly, it parses user demands such as themes, styles and sizes according to prompts or reference images. Finally, the model gradually removes noise to generate target images and supports local redrawing, color correction and secondary optimization.

In the field of new media creation, visual AIGC has two major application directions: generating general materials such as pictures and backgrounds, and producing customized works with designated styles including traditional Chinese style, cartoon and realism to meet the requirements of different platforms.

3. Application Scenarios and Practical Forms of AIGC in New Media Visual Creation

Combined with the practical workflow of the new media industry, the whole creation process is divided into the early creative stage, mid-term production stage, as well as post-processing and mass production stage. AIGC has been widely applied throughout the whole process and served multiple fields including government affairs, cultural tourism, commerce and campus culture.

3.1 Early Creative Stage: Breaking Creative Bottlenecks

Creative conception is the starting point of visual creation. Traditional manual creation is prone to rigid thinking and insufficient inspiration. Equipped with massive case libraries and intelligent association functions, AIGC can effectively solve such problems. Creators can input themes, scenarios and audience information to obtain multiple composition and color schemes within a short time, so as to expand creative ideas. For cultural tourism and intangible cultural heritage themed creations, AIGC can generate conceptual sketches combining regional cultural elements and cut down the time for research and hand-drawing.

In project planning, practitioners can use AIGC to produce visual samples, which makes up for the ambiguity of pure text description and facilitates demand communication and scheme presentation. Statistics show that AIGC is applied in about 26.7% of work in this stage, mainly for idea generation and scheme demonstration.

3.2 Mid-term Production Stage: Replacing Repetitive Work

The mid-term production is the core link of visual creation, where AIGC has the largest application proportion of 58.2%. It is widely used in various types of new media visual works.

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3.2.1 Static Visual Works Creation

Static visuals are the most commonly used new media contents, including publicity posters, official account long articles, information illustrations and functional icons. Posters for policy interpretation, scenic spot promotion and campus activities can be quickly generated by setting prompts and parameters. For example, by entering keywords such as 'Lincang Wa ethnic group customs, traditional Chinese style illustration, warm tone, vertical poster', creators can get the first draft efficiently. For information long articles, AIGC can finish layout and element collocation, and creators only need to supplement text contents. It enables personnel without professional artistic background to produce qualified visual works.

3.2.2 AI Comics and Dynamic Visual Creation

AI comics have become popular content on short video platforms. AIGC can complete character design, scene drawing and frame division, and cooperate with editing software to produce dynamic comics, which greatly reduces the workload of hand-drawing. Besides, AIGC can convert static images into dynamic posters, opening animations and short video special effects to adapt to the dissemination rules of short video platforms[3].

3.2.3 Immersive Visual Creation

In the production of VR panoramic images and AR interactive works, AIGC is used for panorama repairing and virtual scene construction. Traditional panoramic shooting often results in incomplete frames, while the image-to-image and local redrawing functions of AIGC can fix defective pictures rapidly. For virtual exhibition halls and cultural tourism online pavilions, AIGC can generate a large number of visual elements to enrich immersive experience.

3.3 Post-processing and Mass Production: Standardizing Delivery

New media operation requires one original work to be adapted for multiple platforms with different sizes and styles. Manual modification is extremely inefficient, while AIGC's functions of batch generation, size conversion and unified style can well meet such demands. In addition, AIGC's intelligent retouching, color correction and watermark removal can realize refined optimization for initial works and replace repetitive operations of professional software.

Currently, the application proportion of AIGC in this stage is 15.1%. Most creators only adopt basic retouching functions, and advanced features such as batch style migration and cross-platform adaptive generation have not been popularized yet, leaving huge room for development.

3.4 Typical Application Case

Taking the cultural tourism promotion project of Lincang Wa ethnic group culture as an example, the creative team adopted Stable Diffusion to generate initial images of Wa costumes, villages and folk customs. AIGC was also used to produce posters, official account pictures and short video covers of various sizes in batches. On this basis, staff manually optimized details and revised cultural elements to ensure accuracy. The whole production cycle was shortened from 7 days to 2 days. This typical human-computer collaboration case balances cultural connotation and multi-platform release demands[4].

4. Core Advantages of AIGC Empowering New Media Visual Creation

4.1 Lowering Creation Threshold

Traditional visual creation requires creators to master painting, color matching and professional software operation, with a long talent training cycle. AIGC adopts natural language interaction. Users can generate qualified works only by sorting out keywords and clarifying styles. Government administrators, grassroots publicity staff and ordinary self-media operators can independently produce visual contents without professional artistic training, which greatly enriches the new media content supply.

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4.2 Cutting Production Cycle and Labor Costs

It takes 2 to 3 hours for a designer to finish a single poster from conception to final revision, and a series of pictures may take one or two days. By contrast, AIGC can deliver multiple drafts within minutes, and staff only need to select and optimize works. The creation efficiency is increased by 3 to 5 times. For regular new media teams, the improvement of efficiency directly reduces labor costs, and small teams can operate without full-time professional designers.

4.3 Expanding the Boundaries of Art Expression

Restricted by personal aesthetic and skills, manual works tend to have fixed styles. Trained with massive global art and design works, AIGC can switch freely among traditional Chinese style, cartoon, cyberpunk and realism. It can realize creative effects that are difficult for manual creation. In the field of intangible cultural heritage innovation, AIGC combines traditional elements with modern vision to create youthful styles and help traditional culture gain popularity among young audiences.

4.4 Adapting to Multi-platform Operation

The one-work multi-release mode is common in the new media industry. AIGC can quickly generate works with different sizes and styles for various platforms, eliminating repetitive manual work and adapting to the matrix operation of new media.

5. Existing Problems and Risks of AIGC Application

5.1 Serious Homogenization and Deficient Originality & Aesthetics

Most users simply apply universal prompts and default styles of AI models, leading to a large number of similar works across the Internet. In addition, AI lacks human emotions and ideological connotations. Many AI-generated pictures are exquisite in appearance but empty in meaning, with weak expression of themes and emotions. Some works also suffer from unreasonable compositions, distorted figures and illogical elements, which damage the overall visual quality[2].

5.2 Ambiguous Copyright and Frequent Disputes

Copyright has become the most prominent risk of AIGC visual creation. Firstly, most AI training datasets collect online pictures and artworks without authorization, resulting in potential infringement problems at the source. Secondly, according to the *Copyright Law of the People's Republic of China*, only natural persons can be identified as creators. The copyright ownership of purely AI-generated works and human-computer collaborative works has not been clearly defined, and the commercial use boundary remains vague[5]. Thirdly, the phenomenon of "AI image laundering" is prevalent: some people slightly modify others' works via AI to avoid inspection, which disrupts the industrial order. Although the *Measures for the Identification of Artificial Intelligence Generated and Synthesized Content* was issued in 2025[6], the implementation is still inadequate.

5.3 Technical Dependence and Competence Degradation of Creators

Some practitioners rely excessively on AIGC and abandon the training of hand-drawing, composition and color matching. They are reduced to "prompt transcribers" and lose independent creative ability. Once separated from AI tools, they cannot complete basic creation. This phenomenon is particularly harmful to students majoring in new media art, and hinders the construction of professional talent teams.

5.4 Ethical and Value-related Risks

Affected by training data, AI may generate vulgar, historically distorted and inappropriate contents. When creating works related to government affairs, revolutionary culture and ethnic customs, AI is prone to errors in cultural and historical details, which damages the seriousness of cultural communication. Moreover, technologies such as AI image replacement and portrait splicing also bring hidden dangers to portrait rights and personal privacy[7].

ISSN 2616-7433 Vol. 8, Issue 2: 87-92, DOI: 10.25236/FSST.2026.080212

5.5 Inadequate Adaptation of Tools and Industrial Norms

The current AIGC tool market is mixed. Free tools have poor image quality and numerous advertisements, while professional tools charge high fees and have a steep learning curve. Most tools are not specially optimized for new media platforms, and users need to adjust sizes and formats repeatedly. Meanwhile, unified industrial specifications for prompt writing, work review and commercial use are still absent.

6. Optimization Strategies for AIGC Application

6.1 Establish Standardized Human-computer Collaboration Mode

Adhere to the principle that technology serves art and define the division of labor between human and AI clearly[4].

Creative Stage: Humans dominate the overall theme, cultural connotation and core ideas, while AI assists in collecting references and drawing sketches.

Production Stage: AI undertakes repetitive work such as material generation and basic layout; humans focus on optimizing details, revising errors and polishing artistic expressions.

Review Stage: Implement multi-level manual review for government affairs, cultural tourism and other key works to eliminate potential risks.

In teaching and vocational training, AIGC is positioned as an auxiliary tool. Learners are required to consolidate basic artistic skills to avoid technical dependence.

6.2 Improve Copyright Governance and Compliance Management

Standardize dataset construction. Tool developers shall use authorized works and public domain resources for model training to avoid source infringement. Creators shall choose compliant AIGC platforms.

Strictly implement the content identification system. All publicly released and commercially used AI works shall be marked as AI-generated in accordance with relevant regulations[6].

Clarify commercial use and copyright scope. Works with substantial human creation shall be owned by the creators; purely AI-generated works shall be prohibited from commercial use[5]. Enterprises and teams shall keep complete creation records as evidence.

Strengthen supervision and punishment. Platforms shall adopt technical means to identify infringing works, and regulatory authorities shall increase crackdown efforts.

6.3 Improve Creation Quality and Alleviate Homogenization

Popularize professional prompt engineering. We train creators to write targeted prompts according to themes and styles, and build exclusive keyword libraries for regional culture and brand characteristics to form differentiated styles.

Strengthen secondary creation. We carry out in-depth revision with professional software on the basis of AI drafts, and promote the mixed creation mode of AI plus hand-painting to integrate technological advantages and human creativity[2].

Optimize the work evaluation system. We take creative connotation, cultural expression and aesthetic value as core indicators to guide the industry to pursue quality rather than quantity.

6.4 Improve Industrial Norms and Talent Training System

Formulate unified industrial standards. Industry associations, art colleges and leading platforms shall jointly set specifications for work size, format, identification and review.

Implement hierarchical talent training. We provide advanced skill training for professional designers, basic operation and compliance training for grassroots practitioners, and add human-computer collaboration courses for college majors to cultivate interdisciplinary talents.

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6.5 Promote Iterative Optimization of AIGC Tools

Tool developers shall carry out targeted optimization for new media scenarios: add one-click adaptation functions for mainstream platforms such as Douyin and WeChat Official Accounts; build exclusive material libraries for government affairs, cultural tourism and rural revitalization; optimize models of traditional Chinese style and ethnic style to reduce the probability of element errors.

7. Conclusion

AIGC has brought revolutionary changes to the creation of new media visual works in terms of efficiency, threshold and presentation forms. It solves the industrial dilemmas of low productivity and high technical requirements, and pushes the whole industry into the era of human-computer collaboration[1][4]. However, problems including homogenization, copyright disputes, ethical risks and technical dependence cannot be ignored.

Technology is always a tool rather than the subject of creation. In the future, the new media industry shall uphold the concepts of art orientation, compliance and technology empowerment. A sound human-computer collaboration mechanism featuring human-led creativity and AI-assisted production needs to be established. Governments, platforms, enterprises, creators and colleges shall work together to improve laws, regulations and industrial norms. Only by realizing the in-depth integration of technology and art can we build a high-quality, compliant and sustainable new media content ecosystem, and boost the prosperity of the digital cultural industry.

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