

# New Aesthetic of Technology Under AIGC Art Digital Technology Leads the New Trend of Artistic Creation

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## ABSTRACT

The article explores the new challenges and opportunities faced by artistic creation in the context of the continuous development of science and technology and profound changes in human lifestyles. It focuses on the new aesthetics of technology in the field of AIGC (artificial intelligence, information technology, digitalization, and computer-aided) artistic production. Through discussions on historical development, new aesthetic forms under AIGC, its impact on education and employment, and future trends, it reveals the new landscape of the integration of technology and art, as well as its profound significance for human society.

**Keywords:** AIGC, Artistic form, Artistic production, New aesthetics of technology, Education and employment, Future development.

## 1. INTRODUCTION

With the continuous advancement of science and technology, human lifestyles and the pursuit of beauty have undergone earth-shaking changes. Since the era of the Industrial Revolution, the rise of technology has given birth to the industrialization process, which has enabled artistic creation to no longer be limited to traditional handicraft production, but gradually entered the industrial age. During this period, the production mode of art has undergone fundamental changes, and the factory-like production method has enabled large-scale production of artworks, bringing artistic enjoyment and appreciation to a wider range of people. The rapid development of computer technology has gradually ushered in the digital age, and digital technology has not only changed our way of life, but also redefined the concept of beauty. Digital artworks are no longer limited to traditional materials and forms, but have greater creative space and imagination. The rise of the digital economy has also promoted the development of digital art, injecting new vitality and possibilities into artistic creation. Against this backdrop, AIGC has become

a new trend in the field of artistic production, leading artistic creation to a new realm.

## 2. REDEFINITION OF DIGITAL TECHNOLOGY ON ART FORM

### 2.1 Revolution of Aesthetic Concepts and Artistic Forms

The pursuit of artistic forms by humans has shown diverse characteristics in different periods. From the primitive cave paintings in prehistoric times, to ancient sculptures and architecture, to paintings and music in the Renaissance, each era has its own unique aesthetic interests and artistic expressions. Traditional art aesthetics emphasize harmony of form, proportion, and color, as well as the artist's manual skills and emotional expression. However, with the popularization of computers and the development of digital technology, the way of artistic creation and aesthetic standards have begun to change. Computers not only serve as a tool, but also as a new artistic language, which breaks the physical limitations of traditional art and provides artists with unlimited creative space. In the wave of

digitalization, artists have begun to explore computer-generated works of art, which often have unique visual styles and expressions.

Especially since the mid-20th century, human aesthetic concepts and artistic forms have undergone earth shattering changes. In the 1950s, the emergence of computer-aided design brought unprecedented convenience and possibilities to artistic creation. Computers can accurately calculate and present complex geometric shapes, allowing artists to create more flexibly and breaking the limitations of traditional art forms. Driven by the digital economy, the industrialization of art has developed rapidly, and the production and dissemination of artworks have entered a new stage. The application of digital technology enables artwork to be widely spread through the Internet and digital media, thus greatly broadening the audience. The digital production method provides convenience for the large-scale production of artworks, making them no longer high-end consumer goods limited to a few people, but cultural masterpieces that can be accessed and appreciated by the general public.

With the popularization and development of the Internet, the spread speed and scope of works of art have been expanded unprecedentedly. Digital art, as an emerging form of art, has emerged. It utilizes digital technology to create and showcase artworks, enabling them to be quickly replicated and disseminated at an extremely low cost. This convenience and accessibility have gradually led art works from the high-end market to the general public, becoming cultural fast-moving consumer goods. People can easily browse, purchase, and share artworks on online platforms, and the trend of democratization in art is becoming increasingly evident. During this process, AIGC technology gradually emerged as an important driving force for the development of art industrialization. AIGC technology significantly reduces the threshold and cost of artistic creation through automated and intelligent creative processes. This not only enables artists to create more efficiently, but also enables non-professionals to participate in artistic creation. However, this also brings an impact on traditional art professions. AIGC technology has begun to replace human work in certain fields, especially in highly repetitive and technical artistic creation processes. The application of AIGC technology makes art creation more efficient and diverse, injecting new vitality into the innovation and development of art. The production and consumption methods of art are undergoing

profound changes, marking an unprecedented revolution in human aesthetic concepts and art forms.

## ***2.2 New Aesthetic Forms Under the Development of Computers***

Driven by the development of computers, a series of new aesthetic forms have gradually emerged in the field of art. The popularization of computers and the advancement of digital technology have provided new creative tools and ways of expression for artistic creation. Traditional art forms such as painting and sculpture have begun to be combined with digital media. Artists can use computer software to create virtual and digital works of art. These works have broken through the limitations of traditional material carriers, and can be spread and shared through the Internet and other digital platforms, realizing the digital display of the art field. The development of computer technology has also given birth to some new forms of art, such as digital art, interactive art, etc. Digital art creates abstract and geometric artworks through computer-generated algorithms, graphic processing techniques, and other means, breaking the constraints of traditional art forms and showcasing new aesthetic concepts. Interactive art is the use of computer technology to interact with the audience in real-time, making art works no longer static, but can change according to the audience's behavior or emotional state, enhancing the audience's sense of participation and immersion.

The development of computer technology has also provided more creative possibilities for artists. Through computer-aided design, computer graphics and other technologies, artists can more easily realize complex artistic ideas, breaking the limitations of traditional handmade art. Computer-generated images and sound effects have also injected more technological elements into artistic creation, making works more modern and avant-garde. The new aesthetic forms driven by the development of computers have injected new vitality and creativity into the field of art. With the help of digital, interactive and other technological means, art works present a richer and diverse form of expression, while at the same time establishing a closer connection with the audience.

### ***2.3 Art Development Driven by the Digital Economy***

Under the wave of digital economy, digital art is flourishing and has become a new trend in the field of art. The rise of the digital economy, with information technology and the Internet as the core, has promoted the production, dissemination and consumption of digital content, providing a solid foundation for the rise of digital art. Digital art uses digital technology as a medium to combine artistic creation with computer science and digital media, breaking the constraints of traditional art forms and opening up a new mode of artistic expression. Digital art presents diverse and cross-border characteristics. Using digital technology, artists can easily create colorful and visually appealing works, covering various art categories such as painting, sculpture, music, and imaging. The development of the digital economy has also spurred the emergence of new forms of art such as virtual reality and augmented reality, further enriching the expression of digital art.

The development of digital art not only enriches art forms, but also brings new business opportunities to the art industry. Digital art works can be spread and sold through the Internet platform, breaking the geographical restrictions of the traditional art market, enabling artists and works to reach global audiences, thus expanding the potential of the art market. The development of the digital economy has also provided a more complete support system for the industrial chain of digital art, forming a complete industrial ecosystem from creation, production to marketing and sales. The rise of digital art has triggered a series of challenges and problems. Due to the ever-changing ways of creating and disseminating digital art, it is particularly important to protect the copyright of artworks and safeguard related rights. It is necessary to strengthen the construction and implementation of laws and regulations. The quality of digital art works varies greatly, and the aesthetic standards and evaluation system of artworks urgently need to be established and improved to enhance the overall quality and influence of digital art. The development of digital art also requires artists to possess interdisciplinary knowledge and skills, as well as more support and investment from the government and various sectors of society to promote the healthy development of the digital art industry.

Driven by the digital economy, digital art has shown a vigorous development trend, bringing new

vitality and opportunities to the art field. However, the development of digital art also faces a series of challenges and problems, which require all parties to work together to promote the healthy development of the digital art industry and realize the integration and innovation of art and technology.

### **3. NEW AESTHETICS UNDER AIGC**

AIGC - its rise and development mark a new era in artistic creation. This new aesthetic is not just the application of a technological tool, but also a redefinition and transcendence of traditional art forms.

#### ***3.1 The Development of AIGC and Its Promotion of Productivity***

The rise of AIGC is not accidental, but rather the result of the rapid development of technology, the popularization of information technology, and the widespread application of digital production methods. With the continuous breakthroughs and advancement of artificial intelligence technology, the way of artistic creation has gradually shifted from traditional manual production to an intelligent and digital process. The highly developed information technology enables artists to more easily access and process information, thus creating more forward-looking and innovative works. The popularity of digitalization makes artistic creation no longer limited by traditional materials and tools, but can be realized through digital technology, which brings artists a broader creative space and possibilities. The rise of computer-aided design promotes artistic creation to achieve higher efficiency and accuracy, thus significantly improving the level and quantity of artistic works. The rise and development of AIGC is not only the application of a technology, but also a subversion and update of traditional art forms, which will continue to lead the future direction of artistic creation.

In the field of AIGC art production, the new aesthetic is not only an aesthetic trend, but also a revolutionary production method. The introduction of AIGC technology has injected new vitality and efficiency into the current social productivity. AIGC technology makes artistic creation more efficient and precise. Through artificial intelligence algorithms and computer-aided design, artists can realize their creativity more quickly, reducing tedious manual operations and improving production efficiency. AIGC technology expands

the boundaries of artistic creation. The development of information technology has made art works no longer limited to traditional two-dimensional or three-dimensional forms, but can be presented in digital and virtual forms, greatly expanding the possibilities of artistic expression. AIGC technology injects more intelligent and interactive elements into artistic creation. Through the use of artificial intelligence algorithms, art works can achieve deeper interaction with audiences, enabling art to break away from the limitations of static display and present a new form that is more closely connected with audiences. AIGC technology plays an indispensable role in current social productivity, injecting new vitality and innovation into artistic creation, promoting the integration process of art and technology, and further enriching the diversity and depth of human culture.

### ***3.2 New Art Forms and Innovative Types Under AIGC***

AIGC is inspiring a profound transformation in artistic creation. This transformation is not only reflected in the renewal of tools and technologies in the creative process, but also lies in the new art forms and innovative paradigms it brings. AIGC has given artists broader imagination and creative channels, enabling them to express their views, emotions, and aesthetic pursuits in unprecedented ways.

The field of painting art is undergoing a revolution driven by AIGC technology. AIGC systems, through deep learning, can not only imitate the styles of famous painters in history, but also create new artistic languages. These systems analyze a large number of artworks, learn and absorb painting elements such as color, composition, and brushstrokes, and generate highly aesthetic paintings without direct human intervention. The deep learning ability of AIGC also makes the artistic creation process more efficient. Artists can set creation parameters such as theme, style, color preference, etc., and the AIGC system can quickly generate a series of works based on these parameters. This high-speed and convenient production method not only greatly improves the productivity of artistic creation, but also brings more diversified choices to the art market. At the same time, it also provides new creative space for artists, who can devote more energy to creative ideas and artistic expression rather than tedious manual production processes.

The application of AIGC technology not only pushes the boundaries of artistic creation, but also brings a new artistic experience to the audience. With the assistance of virtual reality (VR) and augmented reality (AR) technology, AIGC technology can create an immersive three-dimensional art space, allowing the audience to feel as if they are in a new world. In this world, artworks are no longer limited to flat or static displays, but become vivid, three-dimensional, and even capable of real-time interaction with the audience. For example, the audience can manipulate artworks through gestures or eye movements, or engage in a dialogue with artworks in a virtual environment. This interactivity greatly enhances the attractiveness and participation of artworks. In addition, the combination of AIGC technology and bioinformatics brings more possibilities for artistic creation. By analyzing the physiological data of the audience, such as heart rate and skin conductance, AIGC can create dynamic artworks that reflect human emotions and physiological states. These works can change according to the emotional changes of the audience. For example, when the audience feels happy, the artwork may show brighter and warmer colors; while when the audience feels nervous or sad, the colors and forms of the artwork may become darker and distorted. This art form not only provides visual enjoyment, but also touches the emotions of the audience, and even triggers reflections on their own emotional state.

The new art forms and innovations under AIGC not only enrich the forms and content of artistic creation, but also expand the boundaries and possibilities of art. This new aesthetic that integrates technology and art not only brings visual and sensory pleasure, but also brings people a new understanding and understanding of the world.

## **4. MULTIPLE ROLES AND CHALLENGES OF AIGC IN EDUCATION**

### ***4.1 The Role and Limitations of AIGC in Education***

The application of AIGC technology in the field of education, especially in art and design courses, provides students with the convenience of rapid creation and prototyping. This technology enables students to quickly transform their ideas into visual works, thereby demonstrating efficient results in projects and assignments. For example, in computer

painting courses, students can use AIGC software to quickly generate simple images, and then refine and deepen them in the software. AIGC tools can help students quickly design complex graphics and layout structures based on their ideas.

However, the convenience of this technology also brings some drawbacks. Firstly, it may weaken students' grasp and understanding of basic knowledge. In the process of learning art and design, basic knowledge such as color theory, composition principles, material characteristics, etc. are very important. If students rely too much on AIGC technology, they may neglect the learning of these basic knowledge, which can lead to difficulties in completing high-quality works without technical assistance. AIGC technology may limit students' creativity and critical thinking. One of the purposes of art and design education is to cultivate students' innovative ability and independent thinking. If students are used to using AIGC technology to solve all problems, they may become dependent on preset algorithms and templates, rather than exploring and experimenting with new possibilities on their own. This dependence may inhibit students' originality and personalized expression. Over-reliance on AIGC technology may also lead students to feel helpless in the face of technical failures or limitations. In practical work environments, designers and artists often need to work without advanced technical tools. If students do not learn how to solve problems under these conditions, their adaptability and resilience may be affected.

Although AIGC technology provides significant assistance in teaching, enabling students to quickly design effective works, it also poses some potential problems, especially in terms of consolidating basic knowledge, cultivating creativity, and improving adaptability. Therefore, educators need to ensure that students can balance the application of technology with the learning of basic knowledge while utilizing AIGC technology, as well as cultivate independent thinking and innovation skills.

#### ***4.2 The Impact of AIGC on the Art Industry and the Problems Faced by College Students in Employment***

The rise of AIGC not only changes the way of artistic creation, but also has a profound impact on related industries. The application of AIGC technology makes artistic production more efficient and precise, which challenges the traditional art industry model. For example, in the field of design,

the popularity of computer-aided design has led to the reduction of jobs for many traditional craftsmen. The promotion of the digital economy has also promoted the digital and networked development of the art industry, which further intensifies the pressure on the transformation of traditional industries.

This transformation poses a dual challenge for student employment. The widespread application of AIGC technology has reduced the demand for traditional art majors, and traditional art jobs are increasingly disappearing, thus increasing the competitive pressure on graduates' employment. The development of AIGC technology has also spawned new types of artistic jobs, but these jobs often require higher interdisciplinary skills, requiring graduates to possess more technical and creative abilities. Traditional art education models may not be able to meet the requirements of these emerging positions, and students may encounter difficulties in matching skills when entering the job market. The widespread application of AIGC technology has also brought new requirements for talents. The art industry no longer only needs people with creative and aesthetic abilities, but also needs comprehensive talents who understand how to use technological tools for creation and expression. Traditional art education models need to be reformed to strengthen the training and application of AIGC technology to meet the needs of industry development and improve students' employment competitiveness.

The rise of AIGC has had a profound impact on the traditional art industry and increased uncertainty for students' employment. In the face of this challenge, art education needs to keep pace with the times, adjust teaching content and methods, and cultivate students' ability to adapt to the needs of the new era, in order to promote the healthy development of the art industry and smooth transition of students' employment.

### **5. FUTURE DEVELOPMENT AND CHALLENGES OF AIGC**

#### ***5.1 Technological Challenges and Ethical Considerations Faced by Artistic Production***

In the field of AIGC art production, technological challenges and ethical considerations are important issues that cannot be ignored. With the rapid development of technology, artistic

production is facing increasingly complex technological challenges. For example, the continuous emergence of technologies such as virtual reality, augmented reality, and deep learning has provided artists with unprecedented creative tools and media, but it has also brought new technical problems. Artists need to continuously learn and adapt to new technologies to ensure that their works can keep pace with the trend of the times. Closely related to technological challenges are ethical considerations. With the application of artificial intelligence technology, a series of ethical issues have gradually emerged. Among them, whether artworks created by artificial intelligence should be considered as true art has become a topic of great concern. This involves rethinking the definition and value of artistic creation. Some artificial intelligence algorithms may have biases and discriminatory characteristics, which may affect the fairness and inclusiveness of artworks. Art producers need to carefully consider and address these ethical issues to ensure that their works can truly be accepted and respected by society. Another technological challenge and ethical consideration is the issue of intellectual property and copyright brought about by digitalization. In the digital age, artworks can be easily copied and disseminated, which poses new challenges to artists' creative rights and economic interests. How to protect artists' intellectual property rights while promoting the sharing and dissemination of artworks has become a complex and urgent problem to be solved. Art producers need to actively seek new copyright protection mechanisms, while also working with digital platforms and communities to jointly explore new models of copyright protection and creative incentives.

With the rapid development of AIGC technology, its application in various fields has become increasingly common. However, the popularity of this technology has also brought a series of new challenges, especially in the academic and ethical fields. In the art world, the application of AIGC technology may complicate copyright protection of original works. Artists are concerned that their works may be copied or forged by unauthorized third parties using AIGC technology. These forgeries may enter the market, which not only damages the economic interests of original artists, but also may have a negative impact on their reputation. In addition, the authentication and certification process of artworks has become more difficult, as AIGC-generated works may be visually

indistinguishable from original works. In the field of education, students may be tempted to use AIGC technology to complete homework in order to circumvent the school's requirements for originality. This not only violates the principle of academic integrity, but also deprives students of opportunities to learn and exercise their creative abilities. Educational institutions face the challenge of how to detect and prevent such cheating behaviors. They need to develop new tools and methods to identify content generated by AIGC technology, while educating students to understand the importance of originality and academic integrity.

Technological challenges and ethical considerations are important issues facing the production of AIGC art today. Art producers need to continuously learn and adapt to new technologies, while also carefully considering and addressing ethical issues to ensure that their works are truly accepted and respected by society, while protecting their creative rights and economic interests.

## ***5.2 Future Development Trend and Balance of Technology and Art***

With the continuous development of AIGC technology, the interaction and integration between technology and art will become more profound.

In the future, people can foresee that artistic creation will rely more on the support and assistance of technology, while technology itself will continue to be inspired and challenged by art. With the continuous advancement of artificial intelligence technology, people can also expect the emergence of more intelligent and personalized artistic creation tools and platforms, which will greatly expand the imagination and creative space of artists. With the popularization of information technology and the continuous innovation of digital technology, artistic creation will become more diverse and globalized, and the dissemination and exchange of artworks will become more convenient and widespread. The integration of technology and art in the future will further deepen the interaction and participation of artworks. The application of emerging technologies such as virtual reality and augmented reality will enable audiences to participate more immersively in artworks, interact with them, and co-create with them. This will break the boundaries between traditional artworks and audiences, making artistic creation more social and participatory. With the advancement of big data and algorithm technology, artworks will exhibit higher personalization and customization characteristics to

better meet the needs and aesthetic tastes of various audiences. The combination of technological development and art will have a profound impact on the role and positioning of artistic creators. Traditionally, artists are often regarded as the creators of inspiration and the main body of artistic works, but with the development of AIGC technology, artificial intelligence and algorithms will also become important participants and collaborators in artistic creation. Artists will play a more leading role in technology and an impetus for innovation, working together with technology to create more engaging and profound artworks.

The integration of future technology and art will present a more diversified, intelligent, and interactive development trend. This will bring new opportunities and challenges to artistic creation and the art industry, while also promoting the continuous prosperity and progress of human society and culture.

### ***5.3 The Significance of AIGC to the Development of Human Society***

AIGC plays an important role in artistic production, and its significance is not only reflected in the art field itself, but also has a profound impact on the entire human society. AIGC brings broader creative space and possibilities to art. Through computer-aided design and digital tools, artists can achieve faster and more accurate creation, while also exploring unprecedented art forms and expression methods. This technological intervention not only promotes artistic innovation, but also enriches people's perception and experience of beauty. The development of AIGC has promoted the integration of art and technology, providing opportunities for interdisciplinary communication and cooperation. Artists, engineers, scientists, and other talents in different fields can jointly explore and solve complex technical and artistic problems, promoting cross-border exchanges and innovation of knowledge. This interdisciplinary cooperation model not only helps to promote the development of art and technology, but also provides new ideas and methods for solving various challenges faced by humanity. AIGC is helping to promote the prosperity and development of the art industry, which not only creates many jobs, but also brings considerable economic benefits. In the current global economic situation, governments' strong support for technological innovation provides a good environment for the development of AIGC.

Combined with social market demand, the rise of emerging industries such as digital art, virtual reality, and computer games provides more space for artists and creative practitioners, and injects new impetus into social economic growth. Through digital platforms and online markets, art works can be more widely spread and shared, enabling more people to participate in artistic creation and appreciation, thus promoting cultural inheritance and exchange.

## **6. CONCLUSION**

The development of AIGC technology has brought new possibilities and new aesthetics to artistic creation, injecting unprecedented impetus into the development of art, and also bringing new opportunities and challenges to the field of education. In this emerging field, it is necessary to carefully consider the balance between artistic creation and technological application, focus on the combination of technology and humanities, maintain innovation and respect for the core principles and ethical bottom line of art, and jointly promote the healthy development of AIGC technology to achieve sustainable development and progress in human society.

## **ACKNOWLEDGMENTS**

Jilin JAI Cultural Arts Group Co., Ltd. China.

Game and Interactive Media Technology Jilin Provincial College Engineering Research. China.

Boiling point – PromTechDesign: space of creative and digital industries. Russia.

Saint Petersburg State University of Industrial Technologies and Design, Head of the Department of History and Theory of Design and Media Communications, Associate Professor, Marina Eduardovna Vilchinskaya-Butenko.

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