

# The Application of AI Art in New Media Art Design

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**Abstract.** With the continuous development of AI technology, the combination of AI and new media art design will be more in-depth, and more innovative application scenarios can be explored in the future, such as the combination of virtual reality (VR) and augmented reality (AR) with AI, to provide customers with a more immersive experience. With the assistance of AI, new media art design has created more diversified and innovative works, which has improved the design ability and aesthetic level of new media art. It is more in line with the needs of the new media art design industry and enhances the employment competitiveness.

**Keywords:** New media art, Healing art.

## 1. Introduction

As an interdisciplinary field that integrates digital technology, visual art and interactive experience, new media art design is ushering in a wave of innovation in AI technology. This case aims to explore how AI technology can be combined with new media art design to create innovative teaching models and practice platforms. Through the application of AI technology, the personalized and interactive teaching content is realized, and the learning interest and participation of students are improved.

## 2. The Theoretical Combination of AI Art and New Media Art Design

In terms of technology research and development, because we are visual workers, the focus is on art and design, and the development of technology must be to assist learning and assist design works. New media art design is the integration of new technology, new media and new ideas, and science and art complement each other and make progress together. But design workers are more in the exploration of art, through the new media art immersive interactive experience, will also make a breakthrough in technology research and development. Artistic innovation will inevitably bring technological innovation. At present, the application of AI in the display of new media art design includes digital images, digital images, installation art renderings and new media art interactive experience.

AI has powerful data processing capabilities and can quickly analyze massive images, audio, video and other multimedia data. In new media art design, this means being able to tap into the underlying patterns and trends hidden in a large number of materials. For example, through the analysis of images of a large number of artworks, AI can identify the characteristics of different styles of visual elements, such as the unique brush strokes and color matching patterns in Impressionist paintings.

Generative AI algorithms, such as Generative Adversarial networks (Gans) and variational autoencoders (VAE), are capable of generating entirely new artistic content based on learned patterns. In new media art design, these algorithms can be used to create unique visual effects, animations, or soundscapes. For example, Gans can generate realistic virtual landscape images that can be used directly as a background in a new media artwork or as a starting point for creative ideas.

AI art has brought a new creative source for new media art design. It can be randomly generated or rule-based combinations to create art forms that a human artist might not be able to imagine. For example, different styles of music elements are combined according to rules set by AI algorithms to create a new type of music that combines classical and electronic music, adding a unique hearing experience to the audio part of new media art works.

### 3. The Practical Combination of AI Art and New Media Art Design

At the beginning, AI cannot create the images it wants, which belongs to the control of AI, but with more practice, I gradually get familiar with its thinking mode and working principle, and try more. In the later stage, I can control AI just like mastering software, so that AI can serve myself and make the images and video works I want. The first output renderings are not their ideal, just like we started to learn to paint, is bold, bright colors, a single shape. Later, with continuous practice and in-depth understanding, I was more and more able to make the image I wanted. (as shown below)



Figure 1. The original generated picture

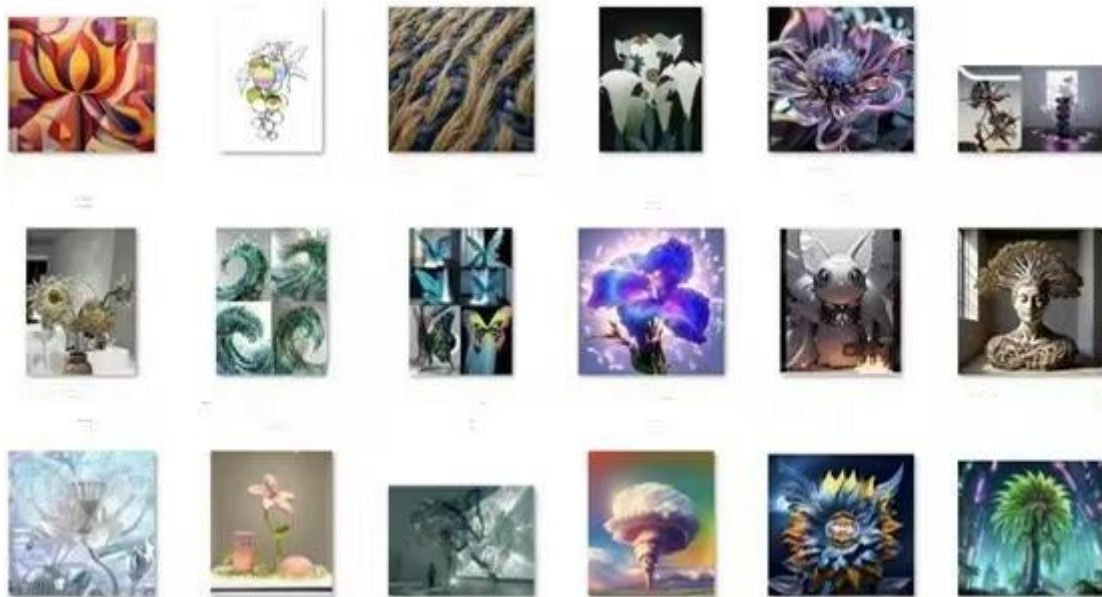


Figure 2. Pictures generated after practice

Case: Mushroom, at first can only generate a single mushroom, later can do different materials, and use this element of the mushroom to do the device effect. (as shown below)



Figure 3. AIGC generated mushroom case

#### 4. Innovation Breakthrough

Interactive learning experience, combined with the characteristics of new media art design, an interactive learning platform has been developed, which can interact with art works through virtual reality (VR), augmented reality (AR) and other technologies to enhance the immersion and practicality of new media art design. Cross-border integration, combining AI technology with new media art design, promoting cross-border cooperation, leading the industry's innovation ability and the ability to solve practical problems. The application of deep learning in artistic creation has realized the application of deep learning algorithms in the process of artistic creation. By analyzing a large number of artistic works, AI can generate new artistic ideas and provide us with creative inspiration. In addition, in the combination of computer vision and natural language processing, the AI system that can understand art works and provide natural language descriptions has been developed, which not only improves the artistic understanding ability of AI, but also has great significance for educational informatization and digital transformation. Industry project cooperation, cooperation with the new media art design industry, using AI to generate installation art renderings. On the whole, it can restore about 80%, the two pictures on the left are AI-generated images, and the two sides on the right are art installations. (as shown below)



Figure 4. Installation art images generated by AIGC

#### 5. Promotion Value and Risk

(1) Application prospects and achievements

The application prospect of this case is broad, and it has been applied in many higher education institutions and art design companies. The current application scale covers hundreds of students and

teachers, and the application depth and breadth include personalized learning path design, intelligent assessment system, interactive learning experience and many other aspects.

#### (2) Social and economic value

The social and economic value brought by this case is mainly reflected in improving the quality of education. The application of AI technology improves the teaching efficiency and the learning experience of students, and helps to cultivate more high-quality art and design talents. Through close cooperation with the industry, students can obtain more practical opportunities, enhance employment competitiveness, and promote the active job market. The combination of new media art design and AI technology has promoted the innovative development of related industries and provided new impetus for industrial upgrading.

#### (3) Demonstration and leading role

In the whole field of higher education, this case has a remarkable demonstration and leading role. The innovation in teaching mode provides a reference mode for the deep integration of AI technology and teaching for other disciplines, and promotes the process of education informatization. It promotes the cross-integration of art design and artificial intelligence, and provides new ideas and methods for interdisciplinary research. Through international cooperation projects, it has enhanced the international influence of domestic higher education and set a model for international education cooperation.

#### (4) Technical and ethical risks

The technical risks that may exist in the application include that over-reliance on AI technology may lead to the degradation of students' innovative ability, and the need to balance the relationship between AI-assisted and autonomous learning in teaching. AI-generated works of art can lead to disputes over originality and copyright, and the role and responsibilities of AI in the creative process need to be clarified. The application of AI technology may lead to uneven distribution of educational resources, and it is necessary to ensure the universality and fairness of the technology.

## 6. Conclusion

These breakthroughs in application practice are of great significance to the development of domestic higher education and talent training. They not only enhance students' practical ability and innovative thinking, but also provide a new way for the internationalization of higher education. In short, the combination of AI and new media art design shows great value in the promotion of art and technology. In the future, AI art and new media art design will support and help each other to create infinite possibilities for art design. The application of AI art to new media art has made remarkable progress and is constantly driving innovation and change in this field. AI can act as an artist's assistant, providing creative inspiration, generating preliminary sketches, or helping with certain technical details. AI can learn a particular style by analyzing a large number of artworks and generate new artworks based on that. Using deep learning and neural networks, AI can independently create works of artistic value. AI technology enables new media art works to respond more dynamically to the viewer's behavior and emotions. Create a more immersive experience. Artists can use AI to transform complex data sets into intuitive, engaging visual representations. With AI technology, new media art works can be personalized according to each viewer's unique preferences and historical behavior. This customization not only enhances the audience's sense of participation, but also broadens the boundaries of artistic expression. AI art is not limited to the traditional art field, but also closely integrated with other industries such as games, virtual reality, augmented reality, and so on. This cross-border integration has brought more diversified means of creation and forms of expression to new media art. The development of AI art has also led to in-depth discussions about creativity, originality, copyright, and the relationship between human and machine. These discussions not only enrich the theoretical connotation of new media art, but also promote the public's understanding and reflection on AI technology. The application of AI art in new media art is multifaceted, far-reaching,

and still evolving. As technology continues to advance and artists explore and innovate, it is reasonable to believe that this field will bring more amazing works and experiences.

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