

A Study on the Influence of Artificial Intelligence on Image Art Design

JIN HE

Zhejiang Gongshang University Hangzhou College of Commerce, Hangzhou 311508, China

Abstract. With the continuous development of artificial intelligence technology, the field of video art design is undergoing unprecedented changes. The purpose of this paper is to deeply discuss the influence of artificial intelligence era on video art design. The artificial intelligence generation system can assist in image generation, video processing, 3D modelling and other work, which greatly improves the creation efficiency. At the same time, these systems provide inspiration and creativity to artists by learning and analysing a large number of artworks. In terms of innovation, AI breaks traditional art and design patterns and supports more open and diverse expression. Machine learning-based generation systems can create stunning, novel images and videos that demonstrate creativity beyond imagination. Artificial intelligence inspires us to reflect on the subjectivity of aesthetic standards and to appreciate more the unique aesthetic orientation of algorithms. AI is having a profound impact on artists, designers and society, and every aspect of life in the future will be dependent on AI.

1 Introduction

Image art is an important part of human art and culture. As a form of existence in new media art, it has inherent experimental and pioneering artistic consciousness. Image art is the questioning, questioning or thinking of a problem or event by means of images, and expressing emotions, opinions and creativity through visual art. However, with the development of artificial intelligence (AI) technology, profound changes are taking place in the field of image art design. The emergence and rapid development of AI have enabled us to explore and create art in unprecedented ways. AI systems can generate images, music, text, and other forms of creativity, as well as enhance, improve, and expand human creativity. The development of this new field raises many important questions about creation, aesthetics and ethics. AI not only changes the way creators work, innovative models, and aesthetic standards, but also challenges artistic ethics and social aesthetics.

2 Application of artificial intelligence in image art design

Artificial Intelligence (AI) has become an indispensable technology in today's society, and its importance is obvious. The rise of AI has not only brought about significant changes in business and science, but has also affected our daily lives. The field of image art design has also been profoundly influenced by artificial intelligence. This evolution manifests itself in many ways:

Firstly, AI has made remarkable progress in image generation and synthesis. Generative Adversarial Networks (GANs) technology, which consists of a generator and a discriminator that confront each other to continuously improve the quality of the generated image. This makes it easy for AI to create realistic images without having to draw or photograph them manually to imitate human creativity. This provides artists with a new creative tool that can use AI to create works of art

Corresponding author email: 1180268@zjhzcc.edu.cn

in all forms, from painting to photography, which will set off a profound change in artistic creation.

A striking example is "Portrait of Edmund de Belamy", a work produced by the French artist team Obvious using GANs. The painting was auctioned in 2018 and attracted widespread attention. This case highlights AI's potential in image generation, and raises ethical and legal questions about AI-generated works.

Secondly, AI has great potential in image editing and enhancement. Automatic image editing tool automatically removes noise from images, adjusts light and contrast, and improves image quality. This allows designers and photographers to optimize and improve their work more quickly. This makes image art design more efficient and enables artists to better realize their creative aspirations. Adobe Sensei is an example of an AI-applied image editing tool. It automatically identifies defects in the image, such as blurring or overexposure, and then provides repair advice. This tool provides a faster editing process, while also helping to lower the threshold of editing skills, allowing more people to easily edit high-quality images.

In addition, AI technology has played a role in style transformation and creative inspiration. With Neural Style Transfer Algorithm, AI can apply the artistic style of one image to another, which provides artists with new creative inspiration and possibilities. This technology changes the creative process to make it more experimental and innovative. AI's automated creation has sparked discussions about whether computers are creative. Some AI systems automatically create artwork, which drives cutting-edge digital art. At the same time, AI-generated works of art also lead to a rethinking of aesthetic standards, challenging the traditional aesthetic concept of art. Artists and designers are gradually accepting AI as a creative tool. The development of this field is still evolving. AI will bring more possibilities and innovation to image art design.

3 How to integrate AI in designer creation process

Image designers can integrate artificial intelligence (AI) tools into their creative processes to improve efficiency, creativity and design quality in the following ways:

3.1 Learn and familiarize with AI tools

Firstly, designers need to understand the available AI tools and software to determine which tools are appropriate for their needs. This may include image generation, image editing, image recognition and analysis, etc. In the image generation: AI generator can be used to create new images. Designers can use these tools to get inspiration or create visual elements. For example, GANs can generate images of abstract art, landscapes, portraits, etc.; Image Editing: AI image editing tools can help designers improve and repair images. These tools automatically remove noise, adjust exposure, enhance color and contrast, and improve image quality; Automation tasks: AI can be used to automate repetitive tasks such as image batch processing, watermarking, image clipping, etc. This helps save time and effort and allows designers to focus more on creative work.

3.2 Data-driven design

AI can help designers analyse big data to better understand the target audience. Through data analysis, designers can make more attractive design decisions, such as selecting the most popular colors, typesetting, and image elements. Using AI-assisted design tools, designers can generate design suggestions based on their needs. These tools provide font selection, layout suggestions, and color matching to help designers develop ideas more quickly. AI can also be used for creative inspiration. Designers can use neural style transfer algorithms to apply different artistic styles to their images for novel creative inspiration.

3.3 Forecast trends and audience responses

Image designers use artificial intelligence (AI) to predict trends and audience responses in their creative processes. They can use AI for data analysis, looking at social media trends, sales data, and web search trends. This helps identify possible trends and audience interest and provides strong support for design direction. AI can also generate trend prediction models to predict future popular elements.

Emotional analysis is another important tool, and AI can evaluate the audience's emotional responses to different design elements to help designers understand their emotional preferences and thus better meet the needs of the audience needs. In addition, AI can explore the relationship between image content and audience's

emotional response by combining emotional analysis with image analysis.

A/B testing is supported by AI, allowing designers to compare performance across different design options. This testing method helps determine which design is more popular and effective, and thus makes smarter design decisions. Finally, AI can also be used to monitor discussions and trends on social media platforms to help designers understand how audiences interact on different social media. AI identifies topics, labels, and trends of interest to provide deeper insights into design to better meet audience expectations. Through these methods, designers can more accurately predict trends, adjust design direction, and provide more attractive and targeted works.

Designers can collaborate with other designers and AI systems to help designers draw advice from different fields and benefit from the collective wisdom of AI systems. When integrating AI tools, designers need to comply with relevant regulations, especially regarding copyright, privacy and ethics. It is important to ensure that their design work is legitimate and ethical. Designers can integrate different types of AI tools based on their needs and creative processes to improve their productivity and quality. This integration requires continuous learning and experimentation to realize the full potential of AI tools while addressing potential challenges.

4 AI Challenge of AI-generated works to image aesthetic standards

The emergence of artificial intelligence has given rise to some new forms of art. Computer-generated art, algorithmic art and AI-based interactive art have all become new creative fields. These new forms challenge traditional definitions of art and trigger discussions about creativity and aesthetic value. AI-generated works challenge aesthetic standards. As artificial intelligence technology continues to evolve, AI-generated artworks, including images, music, and text, become more realistic and diverse, raising aesthetic challenges in the following areas:

On the one hand, AI works raise questions about the definition and originality of creation. Traditionally, the value of works of art is closely related to the creativity, emotion and originality of the creator. However, AI-generated works are created by algorithms and data-

training models that lack emotion and autonomy, raising questions about whether they are truly creative. This poses a challenge to aesthetic standards, and lets us rethink the essence of art.

On the other hand, AI-generated works break the traditional artistic style and norms. AI systems can easily imitate different artistic styles, from Van Gogh's *Starry Night* to Picasso's Cubism. This has led some to believe that the value of traditional art styles and genres is diluted because they can be easily generated by AI systems. This has led to discussions about artistic style and originality, and whether human creators need to rethink the way they create.

In addition, AI-generated works involve a variety of aesthetic standards. Since AI systems can produce works of many different styles, this has led to discussions about aesthetic diversity. Some people believe that AI systems can help dig into new aesthetic paradigms and creative directions, enriching our understanding of image art. However, this also raises the question of whether aesthetic diversity is a positive one, as it can lead to confusion and fragmentation of aesthetic standards.

Finally, AI-generated works are closely related to the ethical and rights issues of AI. Who should own the copyright of AI-generated works? If an AI system produces a work of image art, should it be considered a "creator"? These problems involve intellectual property rights, rights of creators and legal issues, and pose new legal and ethical challenges to aesthetic standards.

In short, AI-generated works pose a series of complex challenges to aesthetic standards. They give rise to discussions on creative, original, stylistic diversity and ethical and legal issues, as well as new opportunities for redefinition and exploration of aesthetic concepts. As technology continues to evolve, these challenges will continue to lead us to rethink the nature and meaning of art.

5 Conclusions

AI systems can help people remove language barriers and promote intercultural communication. Through translation techniques, they can help people understand and communicate symbols and cultural concepts in different cultures and promote respect and appreciation of cultural diversity.

The relationship between artificial intelligence and cultural symbols is multidimensional, covering cultural analysis, creation, communication and cross-cultural communication. AI technology has far-reaching influence on cultural research, cultural industry and cultural exchange. It also raises a series of ethical and legal questions about the interpretation, redefinition and protection of cultural symbols. This relationship will continue to play an important role in the era of globalization, affecting the evolution and exchange of cultures.

The influence of artificial intelligence on image art design is profound and multidimensional. It enhances creativity, provides new creative inspiration and material, automates repetitive tasks, improves productivity, and provides personalized creative tools that enable artists to achieve their unique creative visions. AI also improves the ability to recognize and express emotions, making works of art richer and more emotionally resonant. In addition, AI has promoted new creative areas such as generative art and virtual art, opening up new possibilities for artistic creation. AI also plays a role in cultural research and cross-cultural cooperation, facilitating global exchanges among artists. Although AI brings many advantages to image art design, it also raises ethical, originality, copyright and privacy issues that need to be studied and discussed continuously. In the future, AI will continue to shape the future of image art design, expand the boundaries of creation, and provide artists with more opportunities for innovation and collaboration.

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