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# The Characteristics and Legislative Thinking of AI Painting Tort

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**Abstract:** With the continuous development of artificial intelligence technology, the application of AI painting in the field of art is increasingly widespread, but also caused a lot of legal problems, especially the infringement of AI painting. This paper aims to explore the phenomenon of AI painting infringement, including its causes, characteristics, risks, identification methods and related legislative direction. This paper points out that the characteristics of AI painting infringement are a large number of crawling data of original works, lack of creativity, depriving the original author of income, hidden infringement process is difficult to find. Risks of AI painting mainly include risks of falsified materials, unemployment and artistic ethics. The method of AI painting infringement determination needs to consider whether the data source of AI painting is legitimate and whether the work has generated commercial value. As for the direction of legislation, this paper suggests that copyright ownership, infringement subjects and infringement behaviors should be clarified, so as to protect the legitimate rights and interests of the original authors and promote the sound development of AI painting technology. With the continuous development of artificial intelligence technology, the application of AI painting in the field of art is increasingly widespread, but also caused a lot of legal problems, especially the infringement of AI painting. This paper aims to explore the phenomenon of AI painting infringement, including its causes, characteristics, risks, identification methods and related legislative direction. This paper points out that the characteristics of AI painting infringement are a large number of crawling data of original works, lack of creativity, depriving the original author of income, hidden infringement process is difficult to find. Risks of AI painting mainly include risks of falsified materials, unemployment and artistic ethics. The method of AI painting infringement determination needs to consider whether the data source of AI painting is legitimate and whether the work has generated commercial value. As for the direction of legislation, this paper suggests that copyright ownership, infringement subjects and infringement behaviors should be clarified, so as to protect the legitimate rights and interests of the original authors and promote the sound development of AI painting technology.

**Keywords:** AI painting, Copyright, Infringement Behavior, Risk, Legislation.

## 1. Introduction

In recent years, with the maturity and perfection of a series of scientific technologies such as cloud computing, big data analysis, and deep learning, artificial intelligence (AI) has made tremendous breakthroughs in various fields, causing profound impacts on the global economy, culture, and society. Due to the accumulation of data and the improvement of computing power, AI has achieved significant achievements in areas such as text translation, speech recognition, image recognition, and autonomous driving. Industry giants such as Google, Microsoft, and Amazon have invested heavily in commercial competition in the field of AI. AI painting is a technology that generates images with artistic value by analyzing and synthesizing data from human painters through computer programs. Prior to 2022, AI painting was mostly based on generative adversarial networks (GANs), which had significant limitations in commercial applications. However, with the transition of underlying models from GANs to Diffusion, AI painting made a breakthrough in 2022 with applications such as Stable Diffusion and Midjourney, which produced more delicate and artistic images. In 2022, AI painting technology began to be commercially used, and DeepDream, created by Google's AI, sold for up to $8,000 at an AI art exhibition. In addition, a work by game designer On Allen, titled "Space Opera," won the digital category championship at the Colorado State Fair Art Competition. It can be seen that AI painting has reached the level of human painters, and anyone who does not know how to paint can generate their desired works by inputting keywords. However, in late 2022, a social media user revealed that a job applicant successfully used AI-generated works to pretend as their own and got hired by a large game company, sparking intense discussion on the internet. Moreover, a Korean painter's 11-hour painting live stream was interrupted when a netizen took a screenshot of the unfinished artwork and created a new piece using AI, which was uploaded online before the painter completed their work, leading to widespread condemnation from internet users. Due to the fact that AI painting may crawl data from other painters and potentially lead to many painters losing their jobs, many artists are now resisting AI painting. At the end of 2022, many well-known painting websites launched campaigns to resist AI, and artists angrily denounced AI for infringing on their copyrights. However, currently, due to rapid technological changes, legal loopholes, and unclear ownership of AI-generated artwork copyrights, controversy surrounding AI painting has not been well resolved. In January 2023, the United States Copyright Office announced that it would not provide copyright protection for images generated by Midjourney AI.

## 2. The Emergence of Copyright Infringement in AI Painting

In the process of generating images through AI painting, a large amount of data and algorithms are usually required for analysis and learning, in order to generate new image works. Some AI painting systems may use other artists' works as

learning materials, in order to learn the elements such as style, composition, color, etc. of these works, and then generate new image works based on these elements. However, this behavior of using other artists' work data can easily infringe on their copyrights. Because these artists' works are usually created with a lot of effort and time, and have unique artistic styles and ideas, so they have the right to decide whether to use their works for others' learning and creation. In addition, some AI painting systems may directly copy other artists' works, rather than just using them as learning materials. This direct copying behavior is obviously a violation of the original work's copyright, because it can lead to the production of image works that are similar to or almost identical to the original work, thereby weakening the value and creative significance of the original work.

To address the issue of copyright in AI painting, it is necessary to clarify and regulate it in terms of legal and ethical guidelines. Some countries and regions have begun to discuss and legislate on the issue of AI painting copyright, such as the EU and the United States, which have relevant laws and policies. At the same time, the art world also needs to regulate the ethical guidelines of AI painting, to avoid inappropriate behaviors such as directly copying other artists' works.

# 3. Characteristics of AI Painting Infringement Behavior

AI painting technology can automatically use other artists' works for combination, analysis, and generate complete works. Firstly, it crawls a large amount of original work data. In order to generate images with appreciation value, AI painting generally learns and generates images by crawling the work data on painting websites on the Internet, and then uses deep learning technology to analyze and process a large amount of painting data to extract common features of various shapes, colors, and lines, and establish a series of mathematical models and algorithms. The AI painting program replicates and extracts these original work data, analyzes, processes, and reproduces them, generating seemingly new image works. The generated works by AI painting have a great similarity to the original works.

Secondly, it lacks creativity. The AI painting generation process is usually based on algorithms and data analysis, rather than human creativity. In many AI works, one can see the shadow of other artists. When generating images, AI painting lacks independent, original thinking and inspiration, only reorganizing and replicating the original data through algorithms. Although AI painting can generate images by analyzing and learning a large amount of artistic work data, it does not have the creativity and imagination of human artists. The images generated by AI painting are actually simulated and replicated based on existing data, without independent creativity and personality. This is different from human artists. The works created by human artists usually contain their own thoughts, emotions, life experiences, and cultural backgrounds, which are unique and often require artists to practice and try extensively in the creative process. The works of human artists can often evoke resonance and reflection from the audience and have a profound impact on culture and society.

Thirdly, it deprives the original author's interests. The speed and efficiency of AI painting's work generation far exceeds that of human painters. Traditional paintings require a lot of time and energy from painters, while AI painting only needs to input some keywords or images to quickly generate images. This highly efficient generation method may cause some painters to lose market demand and competitive advantage, thereby affecting their creative interests. At the economic level, the emergence of AI painting may also disrupt the balance of the traditional painting market and affect the creative income of painters. In the past, the creation, exhibition, and sale of paintings all required the participation of intermediaries such as galleries, auction houses, and agents. However, the fast generation of AI painting may make these institutions no longer need to rely on the scarcity of painter's creations, thereby reducing the painter's income. The generation process of AI painting usually does not require the participation of human painters, so there is no need to pay copyright fees to the original authors. This means that the collection and use of original work data may deprive the interests of the original authors. In addition, since the works generated by AI painting are similar to the original works, it may reduce the market demand and profits of the original authors.

Fourthly, the infringement process is covert. The AI work crawls data on the computer, which has a great concealment. It can learn multiple artists' works at the same time and extract their common features. This means that even if AI painting does not directly copy an artist's work, it may also integrate the styles of multiple artists to produce a new work. In this work, there may be multiple original elements of artists...

# 4. The Risks of AI Painting

With the continuous development of artificial intelligence technology, AI painting has gradually been able to produce works indistinguishable from real paintings. This brings some potential risks and challenges, including the following:

First, the risk of counterfeiting. The rapid generation and highly realistic nature of AI paintings make forgery more convenient. For example, some criminals can use AI paintings to generate fake paintings, and then make illegal profits through auction or private trading, which will bring losses to the legitimate art market and the creators. As AI painting technology has become more advanced, it has been able to generate realistic images and videos, making forgery easier and harder to detect. The development of this technology has caused widespread concern because it can be used to produce false news, scams, political propaganda and other fraudulent activities. AI paintings can be used to create fake news stories, and with AI technology, people who produce fake news stories can quickly generate realistic photos and videos, making it easier to deceive audiences. AI painting can also be used to create fake photos and videos. Deepfake uses AI painting technology to create realistic videos, making it difficult to tell the real from the fake. This technology can be used for fraud, threats, political propaganda and so on, bringing bad effects to society. In addition, AI paintings could be used to fabricate evidence. Evidence is very important in legal cases, and developments in AI technology could make it easier for people to falsify evidence. Using AI technology, creating fake photos and videos can be used to trick courts into misjudging the outcome of a case. Recently, more and more public figures have been painted into fake photos and videos by AI, which seriously infringes on the parties' portrait rights and privacy rights.

Second, the risk of unemployment. The development of AI painting technology may replace some traditional jobs in the art industry, such as some traditional painting, illustration,

animation, etc. Especially in some application scenarios, AI painting can quickly and efficiently complete a large number of image creation work, thus replacing some of the traditional art industry practitioners. I The development of painting technology may also replace some graphic design industry jobs, such as some simple poster design, advertising design and other jobs. By learning a large amount of image data, AI painting can learn a variety of visual elements and design rules, and automatically generate design schemes through algorithms. The development of AI painting technology may also have a certain impact on the photography industry. Currently, some AI painting technologies can transform a photo into an artistic style such as oil painting or watercolor painting, which allows some artists or hobbyists to use AI painting instead of photography to create. In addition, people working in the game industry will also face unemployment. Recently, many game companies in China and the United States have started to use AI painting instead of human painting to create desired game characters and game scenes, which may bring a certain degree of unemployment.

Third, artistic ethical risk. The way AI painting is generated may have an impact on the ethical standards and humanistic care of artistic creation. In turn, it has an impact on the traditional art market, including the impact on galleries, auction houses, private collectors, art evaluation experts, etc. These problems may lead to changes in the art industry, but they may also have a negative impact on artists. In addition, because AI does not have human values, if there is bias and discrimination in the training data, then the images generated by AI painting may also have the same bias and discrimination, which may lead to ethical problems, such as portraying certain groups in a negative image and creating stereotypes.

# 5. The Identification of Infringement of AI Painting

The infringement of AI painting has certain particularity compared with the traditional infringement, therefore, the following aspects should be considered in determining the infringement of AI painting:

First of all, you need to consider whether the data source of the AI painting is legitimate. If an AI painting uses data from an unauthorized work, it constitutes infringement. If the AI painting uses authorized data, there is no infringement problem. Among them, AI painting may obtain work data on painting websites through web crawler technology, including original works or reprinted works of artists. Some institutions or organizations may also make data sets available for AI painting, and the complexity of this data source means that the images generated by AI may infringe the copyright of multiple artists.

Secondly, it is necessary to consider whether the work of AI painting has commercial value and whether it has an impact on the market value of the original work. If an AI painting has commercial value and directly or indirectly affects the market value of the original work, then its actions constitute infringement. If AI painting is sold as a commercial product and data from other artists' work is used in the sale, then it is an infringement. Similarly, if AI painting uses works generated by other artists' work data for commercial purposes and gains profits, for example, some public accounts use works generated by artists' raw stone data to increase network traffic for themselves, then they should also be liable for infringement. This point can be identified and dealt with according to the relevant provisions of tort law. In addition, the profits from the work generated by the AI painting should be taken into account if the work generated by the AI painting creates unfair competition with the work of other artists. If the work produced by using AI is similar to the work of other artists, and the work is used for commercial purposes, then this could be to the detriment of other artists. In this case, the profits from the work generated by using AI painting should also be considered as infringing income and should be compensated reasonably.

# 6. Legislative Direction

First of all, legislation should be made to clarify the legal status and copyright ownership of AI paintings, so as to prevent disputes over copyright ownership. At the same time, restrictions on the use of AI painting should be set to prohibit unauthorized commercial use. Meanwhile, it is stipulated that those who use AI painting for commercial activities must obtain the authorization of copyright owners and pay corresponding copyright fees. Since the core creation of AI painting lies in the original data and algorithm model, generating images according to preset rules and data, So copyright should not belong to the AI artist, but to the algorithm engineer and the original data artist

Secondly, it is necessary to clarify the subject of infringement. Since AI does not have the ability to think independently, does not have the status of legal subject, and cannot bear the tort liability as natural or legal person, the subject of infringement here is AI technology provider, AI data provider, AI painting maker, as well as individuals or organizations that make use of AI painting to produce, disseminate, sell and make profits. When using AI painting technology, if unauthorized use of others' original works or photos as data input for technical design and application promotion, it also constitutes infringement.

Thirdly, it is necessary to legislate to punish infringements. At present, there is no specific legal provision for infringement of AI painting. Administrative punishment, civil compensation and criminal liability can be considered. For some minor infringements, such as invasion of privacy, data plagiarism and making false news, administrative penalties can be considered. The amount of fines can be determined according to the severity of the infringements, the size of losses and other factors, and administrative detention can be conducted in serious cases. If the tort damages the interests of the party concerned, the infringing party should make civil compensation. For the victims who suffer losses due to the tort act, they can ask the infringer to make compensation through civil litigation and other means. The amount of compensation can be determined by factors such as the size of the damage. In some serious cases, such as making false news, stealing state secret data and other acts cause serious consequences, the infringement party can pursue criminal liability.

# 7. Conclusion

The year 2022 is known as the first year of AI painting, which makes many zero-base painting amateurs fall in love with painting, and also causes panic in the painting industry. AI painting is a technology that uses artificial intelligence algorithms to generate images, which may violate the artist's copyright and privacy. Therefore, while AI painting is

booming, it is also necessary to clarify the ownership of AI's copyright. The infringement of AI painting includes the use of artists' works or photos as training data to generate images similar to artists' works, etc. Its particularity lies in its lack of creativity, easy large-scale plagiarism, and may deprive artists of their creation interests. Determining the infringement of AI painting requires considering multiple factors such as the source of data and the similarity of the generated images. The development of AI painting will also bring unemployment and ethical risks, which need to be regulated by policies and laws. For the infringement of AI painting, it can be prevented and punished by amending laws, establishing supervision mechanism and strengthening technical control. In the infringement of AI painting, the subject of infringement may be the maker and user of AI painting, rather than AI itself. In the legislation, consideration should be given to how to protect artists' creative rights and privacy while balancing the development and use of AI technology. In any case, AI painting has brought great surprises to people. For such a situation, the whole society should work together, the legislative departments should strengthen the legal norms, the government should actively guide the relevant industries, the painters avoid infringement, and finally achieve a win-win situation

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