



Copyright Infringement Issues in AI Art

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Abstract. AI art, as a burgeoning cultural industry built upon the rapid development of AI technology in recent years, has attracted worldwide attention. However, as a form of generative AI, AI art requires a large amount of existing artwork as its materials for iteration, in addition to its own technical capabilities. In addition to its own technical capabilities, however, as a form of generative AI, AI art requires a large amount of existing artwork as its materials for iteration. Consequently, disputes regarding copyright infringement in AI art have emerged. Currently, opinions on AI art vary in different industries, but the majority, especially creators in related fields, hold a relatively negative and resistant attitude towards generative AI art. They consider such practices as copyright infringement, and numerous cases of intellectual property rights infringement have been reported. If the usage of AI art can be regulated by law to enhance human efficiency, it not only protects the copyright of human creators, but also promotes the development of human art and the further maturation of the commercial art sector.

Keywords: AI art, copyright infringement, intellectual property rights, AI infringement

1 Introduction

AI painting, as an emerging cultural industry based on the rapid development of AI technology in recent years, has attracted worldwide attention, but because it is a kind of generative AI, it is bound to need a large number of existing painting materials as its iteration tools in addition to AI technology, and at the same time, disputes over infringement will also arise. At present, although the industry's attitude toward AI at home and abroad is different, most (especially independent creators) have a relatively negative and resistant attitude toward the current generation of AI paintings as they see themselves as under threat from a flood of cheap, easy copies and a dramatic increase in the number of people who can make those copies.[1] Lack of attribution and compensation for use of their original creations are other sources of aggravation to critics of generative AI.[2] At the same time, because of their infringement, there are a large number of cases related to rights protection.

The research topic of this paper is focus on how to define the infringement problem in AI painting. In order to answer this question, I supposed to research some other

questions, including which link in AI painting has the possibility of infringement? Which party in AI painting is responsible for the infringement of the artist? How to solve the infringement problem caused by AI painting? And what is the relationship between intellectual property protection and innovation incentives?

By solving these problems, it can not only fill the gaps in relevant legal fields, but also effectively protect the intellectual property rights of creators, which is conducive to maintaining the order in relevant fields.

2 Literature Review

Presently, various countries have enacted relevant laws and provisional measures concerning generative artificial intelligence, yet they all represent relatively crude frameworks, with many details in the legal provisions still unresolved. These gaps, to a certain extent, leave room for further development of future artificial intelligence technologies. However, they also pose obstacles to resolving current copyright disputes arising from artificial intelligence, including challenges in defining specific infringement scopes and delineating boundaries of rights. Concurrently, existing laws face varying degrees of scrutiny due to issues such as immature enforcement standards. For instance, The New York Times has raised concerns about the execution of the recent "Artificial Intelligence Act" passed by the European Union, particularly regarding the provision requiring the hiring of new experts amid tight government budgets. Previously, the EU's "General Data Protection Regulation" faced criticism for its unequal implementation across countries, indicating a potential repetition of past mistakes with the "Artificial Intelligence Act".

To some extent, these criticisms can be extended to similar laws worldwide. Given that copyright disputes related to AI represent a novel field, there are no precise standards or sufficient reference points to define infringement scopes and allocate infringement liabilities in practical applications. These factors significantly impede the effective implementation of AI-related laws. Thus, to address the pertinent issues of AI painting infringement, it is imperative to first research and establish clear standards for determining infringement within the context of generative AI, as well as resolving questions regarding rights ownership.

3 Issue of Copyright Ownership

When it comes to AI-generated artworks, establishing copyright ownership is a complex issue. One of the main uncertainties lies in the concept of authorship in the generation of AI works. To address this key issue, I think it can be approached through considerations of originality of the artwork, the extent of involvement from different parts, existing legal and judicial precedents, and international variations in intellectual property laws.

Before we talk about the issue of copyright ownership, we should know the definition of the copyright. The first section of the Act lays down the area of copyright as being in "every original literary, dramatic, musical and artistic work"; and copyright

as being “the sole right to produce or reproduce the work or any substantial part thereof in any material form whatsoever”. [3] As no work can claim protection which is not original[3], originality is the most crucial attribute in determining the copyright ownership. On the other hand, The copyright requires an author. For AI painting, even if the image is generated by the user on the site, it is ultimately based on the output of the original artist. Thus, the artists who have originality should be the copyright owner. At the same time, in AI painting, generative appears to lack human authorship and it is therefore uncopyrightable.[4]

About the extent of involvement from different parts. Although artists don't engage in the process of the picture's generate, their works are the most important part of the process. Others can't generate AI-painting without artists' paintings to train AI models. Therefore, artists are the basis for generating AI paintings.

The current copyright laws of various countries are relatively more protective of the rights and interests of creators. Although there are still subtle differences, they do not affect the context of AI painting, where the artists who are the basis for the generation of works are more often considered as copyright owners. Even if the artists are not copyright owners, due to the unique and irreplaceable role of their existing works in AI painting, the generators and website parties should obtain permission from them to use their works, or assume tort liability to them without their permission.

4 Potential Copyright Infringement in The Process of Ai Art

The generation of AI art involves three parts: the programmers who provide and develop AI software, the users, and the natural persons or legal entities whose works or portraits serve as the materials for AI generation. Disputes in AI art mostly arise between the first two parts and the last one. Firstly, all three parts contribute to the final AI artwork to some extent, making the ownership of AI art itself unclear. Secondly, the iteration of AI heavily relies on the expansion of its material library, which often includes sources of learning materials sourced includes learning materials from various artists on the internet. However, most AI models do not acquire authorization from the artists when using whose works are used as materials, thus lead to disputes concerning copyright infringement. For instance, in January 2023, three artists filed a lawsuit against the creators of AI art software Stable Diffusion and Midjourney, alleging that these organizations violated their rights by using five billion images scraped from the internet for training AI models without the consent of the original artists.

Furthermore, the process of AI art also involves potential infringements on the right to one's own image. The ruling of the Supreme Court in the case of Andy Warhol Foundation for the Visual Arts v. Goldsmith has had a significant impact on generative AI platforms, setting boundaries for copyright infringement and fair use.

Since AI art may infringe upon the intellectual property rights of the relevant authors as well as the right to one's own image during the generation process, it is necessary to establish more precise regulations regarding intellectual property rights so as to make a clear distinction in copyright infringement.

5 Distinction of Copyright Infringement in Ai Art

To determine copyright infringement in AI art, it is crucial to define intellectual property rights first. There exist some studies on intellectual property rights in academia, however, there is no universally-agreed definition on it. “Intellectual property rights refer to the exclusive rights that individuals can legally enjoy over the intellectual creations resulting from their intelligence”. [5] “Intellectual property rights are the general term for the rights enjoyed by creators of intellectual achievements and the owners of marks in production and business activities”. [6] Based on these definitions, the legal characteristics of intellectual property rights can be summarized: the protected subject is intangible information; it involves rights of ownership and control; it can be obtained and exercised within specific territories; and it can be transferred [7]. Therefore, the essence of the protected objects of intellectual property rights is knowledge information. The reason why intellectual property rights exist is that their protected objects embody a common essence: knowledge information. Knowledge information reflects both creative intellectual achievements and the transmission of information through commercial marks.

From the analysis of the concept, characteristics, and objects of intellectual property rights, it can be seen that the artwork of a painter, as the labour outcome of the painter, falls under the protection of intellectual property rights regardless of commercial use. The painter unquestionably possesses intellectual property rights over their artworks.

Secondly, after clarifying that a painter’s artwork falls within the scope of intellectual property rights protection, it is necessary to determine whether the use of the painter’s artworks by AI art companies for training AI models without authorization constitutes an infringement of intellectual property rights. All processes of AI art take place on the internet, protection of intellectual property rights remains relatively vague across different countries. In “Jurisdictional Path Selection for Intellectual Property Infringement in the Internet Environment,” Xu Si discusses that in the online environment, works published in one country can be illegally used in multiple places, resulting in infringement and their consequences occurring in various places. This difference in jurisdictional connection points distinguishes online intellectual property infringement cases from traditional ones [8]. The same holds true for the training materials used in AI art. A simple search on the Internet for relevant keywords yields thousands of works from different authors across various locations. This presents significant challenges in terms of regulation and infringement determination. Despite the existence of numerous AI art cases, the legal domain still lacks comprehensive coverage. Therefore, it is possible to draw insights from other AI infringement precedents. Wu Ziyuan and You Zhonghao’s “Theoretical Logic and Resolution Path of AI Infringement: Based on the Clarification of Technological Neutrality” discuss AI’s use of big data to engage in practices such as personalized pricing and privacy rights infringement. They deconstruct the concept of technological neutrality and argue that it constitutes an infringement. By analogy, AI- powered websites that utilize models trained on unauthorized data without the original artists’ permission and generate profits through membership models fall outside the realm of fair use. Even non - prof-

it websites, in cases where it is uncertain whether users will profit from AI - generated images, can still be seen as infringing on artists' rights. Intellectual property rights are exclusive, and the unauthorized appropriation of artists knowledge by website operators constitutes a form of intellectual property infringement.

Therefore, AI art websites should bear the responsibility for intellectual property infringement against artists, while the establishment of legal frameworks is necessary to regulate and restrict the entire relevant industry.

6 Current Legal Explorations on Ai Art in Various Countries

AI art belongs to the category of generative AI, and its controversial aspect lies in AI art companies and training AI on unauthorized data. However, courts may also consider these large scale training scenarios as falling within the boundaries of fair use. This clearly creates an unfair situation for human creators. It is crucial for courts to find a balance that allows AI art to serve humanity while protecting artists' intellectual property rights. Only then can we uphold the ecosystem of the commercial art field and provide the necessary protection for intellectual property rights. Therefore, the determination of AI art infringement holds significant importance in the current global legal landscape, which is relatively uncharted territory when it comes to intellectual property protection and order maintaining in related fields.

Currently, countries worldwide have made certain explorations and implemented regulations concerning generative AI on a small scale, but all of them are trying to find a balance between restrict and exploit.

In China, the government promulgated the < Interim Measures for the Management of Generative Artificial Intelligence Services >, which requires "Where intellectual property rights are involved, the intellectual property rights legally entitled to others must not be infringed" [9]. The European Parliament had passed a draft bill on AI as well. They require a comprehensive record of any copyrighted material on human works (text, images, videos, and music) used to train AI systems. This will let content creators know if their work has been used to train algorithms to decide if they have been copied and seek compensation. This move is of great significance to the copyright protection of creators.

These explorations promote the standardization of the AI art industry and the improvement of copyright protection, which provides feasible and reliable legal foundations for determining future AI art infringement responsibilities.

7 Conclusion

According to the principles of AI, all creations by AI stem from the learning of existing human knowledge, some of which are proprietary. From a legal perspective, obtaining permission through lawful means is necessary for the learning and utilization of such proprietary knowledge. [10] However, evidently, the current process of AI-generated art creation omits this procedure. Consequently, the act of producing art using AI inherently infringes upon proprietary rights, a condition that persists from

the inception of AI model training. Resolving this issue necessitates clear legal provisions, such as mandating operators of AI art platforms to obtain permission from the owners of original materials before training models. This aims to mitigate conflicts between AI developers and creators as effectively as possible. By addressing disputes and conflicts over copyright between AI developers and creators adequately, laws pertaining to intellectual property rights will be further refined, thereby fostering unprecedented facilitation of innovation and development.

The technological innovations of the AI era have brought tremendous convenience, but have also resulted in numerous infringements of rights [11]. In today's rapidly advancing technological landscape, intellectual property rights are facing increasingly complex and ever-changing infringement environments. As a result, there is a higher demand for relevant laws. Distinction of AI art infringement will provide a positive and effective protection template for judging and safeguarding rights when future technological advancements infringe upon the rights of individuals. This ongoing process of improvement holds significant importance for the continuous development of relevant laws.

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