Analysis of Copyright Ownership Issues in AI-Generated Content

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Abstract: With the rapid development of information digitization, generative artificial intelligence (AI) represented by ChatGPT, OpenAI, and DeepSeek has been fully integrated into public production and daily life, greatly improving labor productivity. Designing and creating based on AI-generated content has become an indispensable and important means. However, everything has two sides: while AI improves creative efficiency and reshapes the creative ecosystem, the copyright issues behind it have begun to emerge, challenging the traditional copyright law's core concept of "human intellectual achievements." Whether AI-generated content enjoys copyright protection and how to determine its ownership has become a focal and difficult issue faced by both academia and practice. This paper systematically analyzes the copyright identification and ownership of AI-generated content, explores judicial practice disputes and opinions through typical cases, and finally proposes legislative suggestions. It is hoped that this paper will serve as a useful starting point to provide certain references for the industry.

Keywords: AI-Generated Content; Copyright Ownership; Originality

1. Introduction

With the rapid development of artificial intelligence technology, AI-generated content has been widely applied in fields such as news writing, artistic creation, and software development. In the case of AI-generated content, there is no clear copyright holder, and the issue of copyright ownership has gradually become a focus in the industry. Since 2015, legal disputes and controversies concerning AI-generated content have been increasing, affecting the healthy development of the generative AI industry and hindering the protection of the legitimate rights and interests of relevant parties. At present, there is still considerable controversy among domestic and foreign scholars regarding the copyright issues of AI-generated content, with multiple views coexisting and no consensus reached. As to whether AI-generated content enjoys copyright protection, the mainstream domestic view holds an affirmative attitude. Regarding its ownership, there are currently three main perspectives: the "artificial intelligence fictitious personality theory," the "commissioned work theory," and the "public domain theory." In specific judicial practice, due to the lack of clear legislation and implementation rules, there are significant differences among courts in various regions in the standards for determining copyright ownership of AI-generated content and in their judgment results. Therefore, further research on the copyright ownership of AI-generated content will help promote legislative work in related fields, provide more ideas and guidance for judicial practice, and have positive theoretical and practical significance.

2. Copyright Identification of AI-Generated Content

2.1 Concept and Characteristics of AI-Generated Content

AI-generated content refers to various forms of content automatically created using artificial intelligence technology, including text, images, speech, video, music, or combinations of the above. Compared with human-created works, AI-generated content is produced based on technologies such as big data algorithms and machine learning, and is characterized by high creative speed, large-scale production, content homogenization, lack of intellectual depth, and insufficient creativity. At the same time, it also faces issues related to copyright and ethical considerations.

2.2 Identification of Copyright in AI-Generated Content

Since the popularization of generative artificial intelligence, works created based on AI have been produced in the tens of thousands every day, and determining whether they qualify as works has long been a challenge for the industry. According to Article 3 of the Copyright Law of the People's Republic of China, works refer to intellectual achievements in the fields of literature, art, and science that are original and can be expressed in a certain form. The core requirement for a work is "originality," meaning that it must be independently completed by the author and possess a certain degree of creativity, reflecting the author's planning, thought, and artistic merit. Therefore, AI-generated content must at least meet the essential requirement of "originality," and works created with the help of AI should demonstrate the author's independent creation and a certain degree of shaping. However, the greatest difficulty with AI-generated content lies in the dual role of author and machine algorithm in the creative process.[1]

At present, the academic community holds two sharply contrasting views on whether AI-generated content qualifies as a work and enjoys copyright protection. The affirmative view argues that AI-generated content possesses a certain degree of originality and constitutes a product of human intelligence. Users exert substantial influence over the generated content through adjusting keywords, parameter settings, and making modifications and improvements; if such content embodies personalized expression and independent thought, it can be deemed to enjoy copyright protection. Conversely, content generated purely through simple commands, lacking originality, cannot be recognized as a work and is not protected by copyright. The opposing view maintains that AI-generated content is the result of computers applying big data models and algorithms, which does not reflect the creative labor of developers or users, lacks the expression of human intellectual activity, and that AI cannot be a legal subject. Therefore, AI-generated content does not constitute a work and is not protected by copyright. In current judicial practice in China, many courts adopt a dual review mechanism for copyright determination, examining both the rights subject (natural person, legal entity, or organization) and the object (whether the content qualifies as a work). On the one hand, copyright ownership of AI-generated content must belong to a natural person, legal entity, or social organization; AI tools cannot be legal subjects and do not enjoy copyright. On the other hand, works (including AI-generated content) must demonstrate obvious "originality" that reflects the author's design intent, creative thinking, and personalized expression, and there must be proof of the developer's and user's creative labor. For example, in an "AI text-to-image" case, the Beijing Internet Court held that AI-generated images met the requirement of "originality," embodied personalized expression by a "human," and that copyright belonged to the user. However, many AI development companies, through agreements, stipulate that the copyright of content generated by users through their services belongs to the platform — for example, Baidu's "Wenxin Yige" — which creates certain conflicts.

3. Copyright Ownership of AI-Generated Content

3.1 Three Major Theoretical Schools on AI-Generated Content

3.1.1 Artificial Intelligence Fictitious Personality Theory

The "artificial intelligence fictitious personality theory" advocates granting AI a fictitious legal personality and holds that the copyright of AI-generated content should belong to the AI tool itself. Proponents of this view argue that AI developers provide the foundation for creative works by building model algorithms, while users generate content through prompts and parameter adjustments — both actions are indispensable.[2] Therefore, AI and users should both enjoy the copyright to the work. This approach could better stimulate and protect the enthusiasm of AI tool developers, promoting software development and innovation. However, granting AI legal personality would give rise to numerous legal and ethical issues, such as the definition of rights and obligations and the assumption of liabilities. At present, most countries do not recognize this view.

3.1.2 Commissioned Work Theory

The "commissioned work theory" holds that AI-generated content should be regarded as a work created by AI at the user's commission, and under the relevant laws on commissioned works, its copyright should belong to the user. This theory is currently the most widely supported among scholars and the most applied in practice. However, the creative process of AI-generated content differs significantly from that of traditional commissioned works, making it difficult to clearly define the

contractual relationship of commission and the rights and obligations of both parties, which may result in unclear copyright ownership.

3.1.3 Public Domain Theory

The "public domain theory" holds that AI-generated content should not be granted copyright in favor of any specific subject, but should instead belong to the public domain. Proponents of this view argue that AI-generated content is derived from public resources, knowledge, and big data from various industries, and therefore, the resulting content should naturally return to the public domain for free use by society as a whole, thus promoting knowledge dissemination and social progress. However, this view may dampen the enthusiasm of AI developers and users to engage in creative work, thereby affecting innovation and industrial development.[3]

3.2 Dilemmas in Determining the Copyright Ownership of AI-Generated Content

3.2.1 Unclear Creative Subject

AI-generated content is based on the AI system itself, which produces the final content according to models, algorithms, and mechanisms trained on big data, combined with user-provided keywords and parameter adjustments. It is difficult to determine who the true creator is or who played a greater role in the creative process. Is it the team of engineers who developed the AI platform, the users of the AI platform, or the AI itself? Each has its own rational basis, and the three theoretical views on AI-generated content ownership stem precisely from this issue.

3.2.2 Difficulty in Determining Originality

Originality is a prerequisite for copyright recognition. AI platforms generate content by learning and training on massive amounts of existing information and data, and the resulting content is often difficult to guarantee as original. There may be similarities or even near-identical overlaps with other works, making originality determination highly challenging. Such issues frequently occur in judicial practice.[4]

3.2.3 Challenge of Balancing Interests

The copyright ownership of AI-generated content involves multiple parties, including AI platform developers, users, third parties related to AI-generated content, and the general public. Once a work achieves great success, all parties may seek to gain a share in the allocation of copyright benefits. Balancing these interests is challenging, and there are currently no relevant laws or regulations to support such arrangements. Existing legal concepts such as "joint works" and "co-ownership of copyright" are clearly inapplicable.

4. Typical Case Analysis of Copyright Issues in AI-Generated Content

4.1 Case Presentation

In February 2023, Li used an open-source AI platform to generate an AI image by inputting prompts, and then posted the image on his personal Weibo account. While browsing the internet, Liu discovered the image and believed it matched perfectly with a recent article he had written. Liu downloaded the image, removed the platform watermark, and uploaded it together with his article to the internet. Later, while browsing online, Li found Liu's article with the accompanying image and believed Liu had engaged in "image theft" and infringement. Li demanded that Liu cease the infringement, but Liu dismissed the claim. Consequently, in May 2023, Li filed a lawsuit against Liu for infringing upon his right of authorship and the right of communication through an information network.

After trial, the court found that the AI platform Li used was open-source software, and the developer had clearly stated in its terms of use that it would not claim rights over user-generated content. Li, using the AI platform and through prompts and parameter adjustments, had generated an image with originality. The court determined the image should be recognized as an artistic work, with Li enjoying the copyright in that image. Liu used the image without Li's consent, thereby infringing upon Li's right of authorship and right of communication through an information network. The court ordered the defendant Liu to publish an apology statement on the platform related to the case and to compensate Li for economic losses in the amount of 500 yuan.

4.2 Legal Analysis

The case centers on three key issues: first, the determination of the originality of the image; second, the ownership of the copyright; and third, the determination of the infringement. First, the court held that the AI platform was merely a tool, and Li's "creative control" was the decisive element in the creation of the work. Second, as a natural person, Li had led the creation of the work through keyword input and parameter adjustments, thereby enjoying copyright ownership. The AI developer had expressly waived copyright claims, so no issue of joint authorship arose. Finally, the defendant Liu removed the watermark from the image without permission and disseminated it without the plaintiff Li's consent, thereby constituting an infringement of the right of communication through an information network. This case determined the work status of AI-generated content based on three aspects: human creative input, the auxiliary nature of AI, and the originality of the result. It also recognized the user as the "creator" entitled to enjoy copyright. This precedent provides an important reference for similar future cases.

5. Practical Disputes over Copyright Issues in AI-Generated Content

5.1 The Issue of Defining AI-Generated Content as a Work

At present, there are no explicit laws or regulations stipulating whether AI-generated content can be defined as a work. In judicial practice, the examination mainly revolves around the core element of "originality." If the user merely inputs a simple command, such as "generate an oil painting," it cannot be deemed to possess "originality" and therefore will not be recognized as a work. AI-generated content needs to reflect the user's "human intellectual input," and the work itself must exhibit "originality." In practice, determining the extent of the user's intellectual contribution and the originality of the work involves a rather complex chain of evidence. Therefore, courts generally follow the principle that "he who asserts must prove." Users need to retain evidence such as prompt information, parameter adjustment records, and the modification process to facilitate proof.

5.2 The Issue of Copyright Ownership in AI Works

Under the current Copyright Law, authors are limited to natural persons, legal persons, or unincorporated organizations; AI platforms cannot be legal subjects. However, in practice, some AI platform developers claim copyright in AI-generated content through "user agreements," "terms of service," and similar provisions, and users generally have no choice but to accept these terms in order to use the platform. Of course, users can sue developers for imposing overbearing clauses and request the court to declare them invalid. Nonetheless, in judicial practice, whether such clauses are valid remains controversial. The question of whether the copyright in AI works belongs to the AI platform developer or to the user needs to be clarified by future laws and regulations, in order to strike a balance between "human creative subjectivity" and "incentivizing technological innovation." [5]

5.3 The Issue of Infringement in AI Creation

AI-generated works are produced by the platform based on extensive learning and training on large volumes of similar data and information, through algorithmic and model optimization. When training and using data to generate content, AI may use unauthorized data, information, or works as materials, creating a risk of infringing on the intellectual property rights of others. In practice, numerous similar cases have already occurred. Therefore, AI developers must strengthen their awareness of intellectual property protection, enhance the review of data and information sources, prioritize public-domain or licensed open data, and clearly indicate the extent of AI involvement to avoid using copyright-protected content. For AI-generated content, key elements—such as distinctive character images, logos, etc.—should undergo a legality review. For generated works, it is generally advisable to add a generation label and provide a copyright statement. Users, when inputting prompts and adjusting parameters, should include appropriate preconditions to demonstrate a certain degree of creativity, thereby enhancing the originality and distinctiveness of AI-generated works and reducing the risk of copyright infringement.

6. Legislative Recommendations for AI-Generated Content

6.1 Including AI-Generated Content within the Scope of Copyright Protection

The current Copyright Law contains little to no provisions regarding AI-generated content, leaving no legal basis for regulation. In the future, as the AI industry becomes a core element of major power competition, strengthening the protection and management of AI-generated content will be imperative. It is recommended that relevant authorities explore incorporating AI-generated content into the category of works through legislation, with detailed provisions on its work attributes and copyright ownership, so as to ensure a clear legal basis. For example, Article 3 of the current Copyright Law could be amended to explicitly include "artificial intelligence (AI)-generated content" as works, and Article 11 could be supplemented with "natural persons, legal persons, or unincorporated organizations using artificial intelligence (AI) may be deemed authors," thereby clarifying the author status of users.

6.2 Clarifying Limitations on the Right of Authorship for AI-Generated Content

Although AI-generated content may theoretically meet the criteria for works, it still differs greatly from human-created works in terms of intellectual effort. Based on the principle of good faith in law, and to balance AI-generated content with traditional works, it is recommended to impose certain restrictions on the right of authorship. The author (user) of AI-generated content may claim authorship but must conspicuously indicate that the content was generated by AI, thus enabling the public to distinguish between the two and safeguarding the public's right to know and right to choose.

6.3 Clarifying the Term of Copyright Protection for AI-Generated Content

Under China's current Copyright Law, the term of copyright protection follows the international mainstream standard of 50 years, consistent with the Berne Convention, primarily to cover the author's lifetime and the average lifespan of their heirs. However, AI has neither a lifespan nor heirs, and therefore its protection period should be reconsidered. Moreover, as AI-generated content generally involves relatively little human intellectual labor, the term should be limited to balance against the intellectual effort involved in human-created works. This paper suggests maintaining the existing protection period for moral rights such as the right of authorship, the right of revision, and the right to protect the integrity of works, but limiting the protection period for economic rights. According to past statistical surveys, 98% of the revenue from traditional works is earned within the first 20 years of protection. Therefore, it is recommended that the term of economic copyright protection for AI-generated content be limited to 20 years.

7. Conclusion

The core issue in determining the ownership of copyright in AI-generated content lies in defining the scope of human creative contribution, with emphasis on quantifying the standard for assessing human "intellectual input." At the same time, the principles of good faith and the protection of the public's right to know must be taken into consideration. The emergence and escalation of this issue essentially reflect the tension between technological advancement and legal adaptation. At the intersection of machine algorithms and human inspiration, the mission of the law is not to favor one over the other, but to maintain balanced coordination, building a bridge between human intellectual effort and technological progress to achieve harmonious integration.

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