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Research on Legal Issues of Tort by Generative Artificial Intelligence

Zexiao Liu[1,a,*]

[1]Chengyi College, Jimei University, Xiamen, China
a. 1554068764@qq.com
**corresponding author*

Abstract: With the continuous development of artificial intelligence technology, generative artificial intelligence copyright infringement occurs from time to time. Generative artificial intelligence may infringe on the personality rights and copyright of others. Clarifying the subject of generative AI infringement and the applicable principles of attribution is the basis for handling such cases. Users, research and development, and platforms of generative artificial intelligence may constitute the subject of generative artificial intelligence infringement. Generative AI generated content infringement attribution should be analyzed according to the specifics of the facts. The first thing to consider is the nature of the generated content and the use scenario, the autonomy of the AI, the user's intent, and the developer's design intent. Secondly, relevant laws and regulations should be improved to ensure that technological development is synchronized with legal protection, and a perfect regulatory mechanism should be established to monitor and copyright audit AI generators in real time to reduce the occurrence of infringement incidents. This paper will discuss the attribution of generative AI content infringement through specific case studies and put forward corresponding legal recommendations.

Keywords: Artificial Intelligence, Tort Subject, Tort Liability, Liability Attribution

1. Introduction

Nowadays, in the modern society of rapid technological development, artificial intelligence technology has emerged, and generative artificial intelligence, represented by Chatgpt, has made great contributions to the development of human society. For example, AI drawing, composing and writing programs have been able to create content that appears indistinguishable from human works. Not only do these technologies have great potential in areas such as image design, text creation and music production, but they have also begun to appear in professional services such as education, healthcare and law, helping people to learn and assisting them in their work, and their new technologies have greatly enriched the intellectual and cultural pool of human knowledge and social life.

However, the history of the interaction between technological advances and the law shows that every technological advancement brings difficulties and challenges to the existing legal system. Generative AI is likewise accompanied by many legal issues. For example, does AI-generated content constitute a work, to whom does the copyright of AI-generated content belong? And how should the issue of possible infringement of others' copying and adapting rights by the generated content be resolved? China's current Copyright Law does not explicitly provide for the copyright of AI-generated

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works, but judicial practice has tended to recognize the attributes of AI-generated materials as works and protected by the copyright law. Therefore, if AI-generated works infringe on the copyright of prior works, they are also subject to legal liability.

From the perspective of the scope of tort law, there are still many unresolved issues in the field of AI-generated works. First of all, can artificial intelligence become the subject of tort? The issue of the subject of infringement has already emerged in society as a common case, for example, an AI system used other people's data to learn and generate new content without permission, which triggered a controversy about the use of the data and the right of attribution. Second, how to determine its liability attribution. For example, there is no clear legal guidance on whether liability should lie with the vehicle manufacturer, the software developer or the vehicle owner when an autonomous vehicle is involved in an accident.

To address these challenges, some experts have suggested introducing the concept of a "responsible agent", i.e., a legally appointed agent for AI systems to deal with the attribution of liability for torts. At the same time, there have also been proposals to amend existing laws to clarify the legal status of AI as a tool and potential subject, as well as the attribution of intellectual property rights to its creations.

At the international level, the World Intellectual Property Organization (WIPO) has begun to explore AI and IP-related topics in an attempt to provide guidance on the legal framework on a global scale. However, it will still take time for these discussions and efforts to be translated into concrete legal provisions and practical guidelines. Therefore, the legal, technical, and policy-making communities need to have an ongoing dialog to ensure that the law can adapt to the rapid development of AI technologies.

This paper examines the legal issues of infringement of generative AI-generated objects, and analyzes the legal attributes of AI-generated objects, exploring how to define the responsibilities and rights of all parties, including the AI, the user, the developer, and the owner, under different scenarios. At the same time, possible loopholes under the current legal framework will be analyzed and corresponding legal recommendations will be put forward, with a view to providing clear legal guidance on the infringement of AI generated objects.

2. Definition of Infringement Objects of Generative Artificial Intelligence Generated Objects

Modern society is a risk society, and the development and widespread use of generative artificial intelligence, inevitably accompanied by "artificial intelligence risk"[1]. ChatGPT once appeared, it triggered the community to produce two completely different views. Some argue that generative AI cannot be widely used, mainly because its development will bring a large number of infringement problems, and even because of the creation and dissemination of a large number of false information, which may lead to serious social problems. However, there are pros and cons to everything, and generative AI can bring a lot of convenience and benefits to human society. It is also particularly important to give high priority to the issue of potential violations and other social problems.

The important characteristic of generative artificial intelligence is reflected in its tort object. Unlike traditional infringement, the infringement caused by ChatGPT is mainly the infringement of personality right and copyright.

2.1. Infringement of personality rights

First, the security of privacy and personal information is threatened. Generative AI technology has the potential to lead to widespread leakage of privacy or personal information. When building large-scale generative AI models, massive amounts of data are often required to support them. However,

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in the process of training these AI products, providers may utilize improper means to collect numerous personal information or use large amounts of data from illegitimate sources for training, giving rise to new types of privacy and personal information violations. According to the study, miscreants may be able to steal privacy-sensitive information hidden in model training data by launching attacks on large-scale language models. If generative AI and other large-scale language models involve privacy-sensitive data in the training process, these wrongdoers can take advantage of the opportunity to steal privacy information through attacks, resulting in privacy leakage incidents.

Second, infringement of the right to reputation. Large-scale generative AI models mainly rely on digesting human text input to generate output products, such as text, images, audio, video, etc. Once the information in these outputs is false, it may lead to infringement of others' right to reputation. ChatGPT will also bring some new forms of infringement of the right to reputation. The emergence of generative AI has led to the mass generation and dissemination of false information[2]. Sam Altman, CEO of OpenAI, said in an interview, "I'm particularly concerned about these AIs being used to create disinformation on a large scale.[3]" For example, the phenomenon of "fabrication" by generative AIs such as ChatGPT could result in ChatGPT answering questions by making up stories about people who are suspected of sexual harassment, or about someone who is illegally cohabiting with someone else, causing damage to their reputation. It may also automatically generate false pictures, audio, and video, which can not only "make the real" but also "create something out of nothing", resulting in the infringement of others' reputation, privacy, and other rights and interests of personality[4]. Therefore, it is important to establish legal regulations and ethical constraints to prevent the abuse of generative AI. Therefore, for the use of generative AI, it is particularly important to establish appropriate legal norms and ethical constraints to prevent irreversible damage caused by the abuse of technology.

2.2. Infringement of the copyright law

Artificial intelligence developers and service providers have frequently encountered copyright legitimacy challenges in various aspects of data training and data output. Currently, generative AI has established a set of standard R&D processes including data collection, model training, parameter optimization and output. In terms of infringement patterns, data collection may mainly infringe on the reproduction and adaptation rights of copyright holders. On the one hand, developers often collect training data by means of crawling web content and copying physical works, which are subject to the norms of copy right. On the other hand, in order to improve the quality of training, developers modify, encode and add interference signals to the data, which may violate the copyright holder's adaptation and compilation rights.

In the output stage, generative AI combines training data with user-input prompts to produce text, music, images, and other outputs. If these products are substantially similar to prior works of natural persons, they may give rise to copyright infringement issues. If the AI model uses data from a work containing copyright for training and generates outputs that are substantially the same as the original work, it is a direct infringement of the right to copy the original work. Compared with the copying behavior in the data collection stage, the copying in the output stage is directly oriented to the public, and the infringement impact is more far-reaching. In addition, even if the content of the model output is innovative, it may still be regarded as an adapted work because it contains elements of a work already in the database. Without the authorization of the right holder, such data output may infringe the right of adaptation.

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3. The subject of generative AI generator infringement

When discussing the infringement of generative AI, one important question is whether the AI itself can bear the responsibility of infringement. In traditional copyright law, the subject of infringement usually refers to the natural person or legal person, but in the field of artificial intelligence, the concept of the subject of infringement becomes vague. Artificial intelligence as a tool, its behavior should be responsible by the operator or developer. However, with the increasing development of technology and the growing autonomy of AI, the legal status and liability attribution of its generators has yet to be resolved. In order to solve this problem, then, a new legal framework may need to be established to clarify the attribution of intellectual property rights to AI-generated objects. This may include amendments to existing copyright laws to recognize the status of AI as "non-traditional creators", with corresponding rights and obligations. At the same time, consideration will need to be given to how to balance the interests of creators, users and the public to ensure that innovation is encouraged while protecting intellectual property rights. In addition, the international community may need to cooperate in order to develop harmonized legal standards and practices to avoid conflict of laws and confusion over jurisdiction. As AI technology continues to advance, related legal and ethical issues will continue to emerge, and continued legal research and practice will be needed to address these challenges.

From the current legal practice, this paper argues that at this stage, the infringing subjects of generative AI generators include the users of the AI, and the developers of the AI. Generative AI generator infringement subject is mainly the developer or user. The reason for this is that a developer may inadvertently include copyrighted material when designing and training an AI model, which will result in a third party's intellectual property rights being infringed upon by his or her production. Users, on the other hand, may also be infringing when they utilize AI for creative purposes without some necessary review or modification. Therefore, legally, developers and users, as subjects, are liable for the legality of AI-generated objects. For example, if an AI system uses copyrighted material to create a new work without permission, the user who uses the work may face infringement charges. Meanwhile, developers may also be held liable if they fail to take appropriate measures to prevent infringement.

However, when judging the subject of infringement, it should also be differentiated according to the size of the liability. For example, If users use generative AI to generate false information, the users should bear the primary responsibility. It has been pointed out that from the user's point of view, if the user can provide as much background information as possible, provide as much specific external knowledge as possible, and decompose complex problems into sub-problems, it can help to avoid the phenomenon of "conjecture"[5], but if the user adopts an intentionally induced way in communicating with the generative AI (e.g. intentionally increase the frequency of a word, adjust the position of the word in the sentence, or give words that have relevance to the word), or intentionally accuse someone of sexual harassment and other behaviors, ask the generative AI to generate pictures or guide the generative AI to generate the answers it wants, or even mislead it to generate false information[6], these behaviors in themselves indicate that the user is at fault.

In addition, if a third-party platform knows or should know that infringing content is available on its platform and fails to act, the platform operator may also become liable for infringement under relevant laws.

4. The generative artificial intelligence generator infringement liability principle

When discussing the principle of generative artificial intelligence (AI) generator infringement liability, there is no way to avoid the issue of the legal status of AI generator. Currently, the legal systems of most countries have not yet provided a clear legal definition of works created by AI, so in

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practice, the issue of attribution of liability for infringement of AI-generated objects becomes complicated. As mentioned above, usually, the attribution of infringement responsibility of AI generated objects mainly includes the following three kinds: first, the responsibility of AI developers and users: the developers and users of AI should undertake certain review and supervision responsibilities to ensure that AI generated objects do not infringe the legitimate rights and interests of others. If the AI generation involves infringement, the developers and users may need to bear the corresponding legal responsibility. Second, the responsibility of the AI itself: since the AI does not have the qualification of a legal subject, it cannot bear legal responsibility directly. However, with the development of technology, the AI may have a certain degree of autonomy in the future, and then it may be necessary to reassess the AI's liability attribution. Third, third-party liability: if a third party uses the AI generated object to carry out infringing behavior, then the third party should bear the corresponding legal responsibility. Therefore, determining the principle of attribution of liability for AI-generated objects infringement requires comprehensive consideration of the legal status of the AI, the liability of the developer and user, and the behavior of the third party. With the continuous progress of AI technology and the improvement of relevant laws, new challenges come one after another, and the principle of tort attribution will be continuously adjusted to adapt to the new environment.

The current academic view is that generative AI generated material infringement attribution should be analyzed according to the specific circumstances of the facts. First, what needs to be considered is the nature of the generated content and the usage scenario. On the one hand, if the generated content is used for commercial purposes and without the permission of the original author or copyright holder, the corresponding infringement liability may be borne by the using party. On the other hand, the liability for failing to take reasonable measures to avoid infringement when designing and training the model should be borne by the producer operator. For those advanced AI systems that are capable of learning and generating content on their own, some more in-depth issues may need to be explored, such as whether they have a certain degree of liability. In legal practice, how to balance the relationship between technological development and copyright protection is a current issue that needs to be resolved.

Then other factors should be considered in determining the attribution of liability, including the autonomy of the AI, the user's intent, and the developer's design intent. The higher the autonomy of the AI, the higher the likelihood that it will act as an independent infringing subject. However, most current AI systems still rely on human guidance and control, so users and developers usually play a more critical role in infringement. Users who intentionally utilize AI for infringement should be held primarily liable; developers who fail to provide the necessary supervisory measures or intentionally design AI to circumvent copyright laws should also be held liable. In addition, platform operators should establish an effective regulatory mechanism to respond to infringement complaints in a timely manner in order to minimize infringement. By clarifying the responsibilities of all parties, the healthy development of generative AI can be promoted while protecting the legitimate rights and interests of creators. Therefore, clarifying the main parties responsible for infringement is crucial for the protection of intellectual property rights and the maintenance of a fair market environment.

In addition, there is still controversy over what principle of attribution should be adopted in cases where the inherent defects of generative AI products cause harm. One viewpoint is that because the inherent defects of generative AI products cause damages, the maker of the product should be held liable, regardless of whether it is at fault or not, and the principle of strict liability should be applied[7]. Another viewpoint is that it is difficult to determine whether the service provider is at fault simply because of the inherent defects of the generated AI product, and that it is necessary to consider how the inherent defects arose, whether they are obstacles that are difficult to overcome with existing technology, and whether the service provider has used its best efforts. In such cases, fault liability

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should still be applied. Since AI-induced damage is often caused by multiple factors, all parties should take reasonable care to avoid damage. Therefore, AI designers and AI users should take due care or else they should be held liable[8].In the EU rules on AI products, AI products are categorized into four categories according to risk: unacceptable, high risk, limited risk and minimal risk, and the use of unacceptable risk is prohibited[9], and the operators of products involving high risk are strictly liable[10].

5. Conclusion

This paper has explored the subject of generative AI generation, the relevant issues of tort liability. with the continuous progress of AI technology, it is necessary to constantly update and improve the relevant laws and regulations to ensure that technological development and legal protection are synchronized. With the development of technology, it is necessary to establish a set of perfect regulatory mechanisms to carry out real-time monitoring and copyright auditing of AI generators in order to reduce the occurrence of infringement incidents. At the same time, the legal profession also needs to clearly define the attribution of copyright and the division of responsibility for AI creations in order to adapt to the new challenges brought by technological progress. In addition, the education system should be adjusted in due course, and relevant courses on AI ethics and legal knowledge should be incorporated into education programs and implemented to strengthen the sense of responsibility and legal awareness of future practitioners. People from all walks of life should participate together to form a consensus and guiding principles on the application of AI technology through public discussions and professional seminars. Media and public education also play an important role in raising public awareness of AI technology and its legal issues by popularizing relevant knowledge. In this way society can enjoy the convenience brought by AI while ensuring that social order and individual rights and interests are not infringed upon.

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