

Exploring the Copyright Attribution of Artificial Intelligence Generated Objects

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Abstract: Regarding the attribution of copyright in AI-generated products, the first thing to consider is whether there is an agreement between the parties, and according to the principle of autonomy of meaning, if there is an agreement between the parties, the content of the agreement should be respected. However, in practice, most of the disputes arising from the parties do not exist in the case of agreement, if you want to determine the ultimate ownership of the copyright in this case, the interests of all parties should be taken into account, this paper believes that the artificial intelligence generated by the copyright belongs to the user is the most appropriate.

1 INTRODUCTION

In recent years, with the rapid development of artificial intelligence technology, the emergence of a large number of artificial intelligence generation, not only widely seen in the field of science and technology, in the field of literature is also increasing, which led to a large number of issues related to copyright, of which the attribution of the copyright of the artificial intelligence generation in the academic community is more caused by a wide range of discussions. At present, for the case of agreement, academics generally believe that can be dealt with in accordance with the agreement, this kind of situation on the attribution of copyright is not controversial, the controversy mainly focuses on the case of no agreement. On the attribution of copyright of artificial intelligence generation without agreement, scholars hold different views and have not yet formed a unified conclusion. There are views that based on the subject status of AI itself regarding the AI products, the copyright of the AI products should be attributed to the AI itself; there are also views that based on the close connection between the user and the AI products, the copyright should be attributed to the user; there are also views that based on the research and development of the designer and developer for the overall research and development of the AI, the copyright should be attributed to the designer and developer; and another view is that, based on the large

amount of financial support from investors, it is more reasonable to attribute the copyright to the investors.

Judicially, in Shenzhen city, Guangdong province, Nanshan district People's court trial of Tencent v. Yingxun technology infringement of copyright disputes, the plaintiff Tencent company first published on its website titled "lunch review: Shanghai index rose slightly 0.11% at 2671.93 points communication operation, oil mining and other plates led the rise of" the financial articles, the end of the note "this article is by Tencent robotic Dreamwriter automatic writing", Yingxun technology in the premise without its permission on its website to publish the same article, and did not mark the source of the article and signature, therefore, the plaintiff Tencent v. Defendant Yingxun infringement of its copyright and the right to disseminate information network, and constitute unfair competition. The focus of the dispute in this case is whether artificial intelligence can have independent legal personality and establish civil subject qualification in private law. For a period of time, the basic view of the court is that the qualification of artificial intelligence as a legal subject is to be clearly stipulated by law, but the relevant content automatically generated by artificial intelligence needs to be protected. However, in this case, there are new signs of development, the court found that the article in question belongs to the written works protected by China's copyright law, and it is a legal person's work created under the auspices

of the plaintiff. It means that the court explicitly recognized that the articles generated by AI constitute works, which also clarifies the legal subject qualification of AI.

In the case of *Li Mou v. Liu Mou* infringement of the right of authorship of works and the right of dissemination of information network disputes heard by the Beijing Internet Court, the plaintiff used open source software to generate the picture in question through a series of operations and then released it on the Internet platform, the defendant released an article on Baiké and used the picture in question as an accompanying picture without the permission of the plaintiff, and cut off the plaintiff's watermark of authorship on the Internet platform, and it was sued for infringing upon the right of authorship and the right of dissemination of information network enjoyed by the plaintiff. The plaintiff was sued for violating the plaintiff's right of authorship and the right of information network dissemination. The focus of the case was whether the plaintiff should enjoy the copyright of the picture. The Court, in accordance with the relevant provisions of the Copyright Law, held that authorship is limited to natural persons, legal persons or unincorporated organizations, and therefore artificial intelligence itself cannot be an author in the sense of the Copyright Law. The plaintiff was the one who formed the pictures according to the needs through a series of operations and settings, and the pictures were directly generated based on the plaintiff's intellectual input and reflected the plaintiff's personalized expression, so the plaintiff was the author of the pictures and enjoyed the copyright of the pictures. In this case, the court found that the copyright belongs to the user of artificial intelligence, denied the legal subject qualification of artificial intelligence, and the court of Nanshan district of Shenzhen city in the case of the subject qualification of artificial intelligence to be confirmed by the judicial decision path is very different.

This shows that at present, the subject of copyright attribution is still unclear. This paper examines the question of which subject the copyright of AI generated objects should be attributed to, which is of great significance for solving the long-standing disputes over the ownership of AI generated objects and promoting the long-term development of AI. In particular, the main problem to be solved in this paper is the attribution of the copyright of AI generators, so the question of whether the AI generators themselves belong to works will not be discussed in this paper.

2 THE POSSIBILITY OF COPYRIGHT ATTRIBUTION IN ARTIFICIAL INTELLIGENCE

2.1 Attribution of Legal Personality to the AI Itself

At present, there is still a big controversy in the academic circles about whether artificial intelligence itself can become the author in the sense of copyright law, and there is no clear provision in the law, in this regard, there are three influential views in the academic circles: subjectivism, objectivism and relative neutrality.

Subjectivist scholars believe that artificial intelligence does not satisfy the subjective elements of the copyright law on the work, can not yet become the author, should not enjoy copyright. Subjectivism insists on taking the author as the center, and believes that the legislative purpose of copyright is to stimulate the creative enthusiasm of human beings, while artificial intelligence cannot embody the will of human beings, let alone be stimulated by the copyright law, therefore, it is not reasonable to recognize artificial intelligence as the author (Yang, 2024).

Objectivist scholars believe that if artificial intelligence cannot become an author in the sense of copyright law on the ground that only natural persons can become authors, it is too biased and very one-sided. For whether artificial intelligence can become a work, the most central element of judgment should be whether it has originality, that is, should adhere to the result-centered, in the artificial intelligence generation does meet the premise of originality, not only should agree that it belongs to the work, but also should be recognized as the author of the artificial intelligence generation of authorship status, recognition of its enjoyment of copyright (Yang, 2024).

Scholars with a neutral attitude towards this issue believe that, although from the viewpoint of the type of object performance, AI-generated works include contents generated entirely by AI, but human participation and intervention still cannot be avoided in the process of design and R&D, and AI does not yet have an autonomous consciousness, and cannot generate "works" in the sense of the copyright law completely independently (Tang and Niu, 2023). However, even if the artificial intelligence can not become the author at present, along with the development of artificial intelligence technology, there still exists the possibility of giving the artificial

intelligence a mimetic personality or even a legal personality, which in turn has the possibility of taking the artificial intelligence as the copyright owner of its generative works(Zhuang and Xin,2024).

2.2 Attributable to the User

In the case of Li Mou v. Liu Mou in the dispute over infringement of the right of authorship of works and the right of dissemination of information network, which was heard by the Beijing Internet Court, the court recognized that the user owns the copyright of the works generated by the use of open-source software, which shows that it is also operative to attribute the copyright of the AI generation to the user in practice.

The reasons for attributing the copyright of AI-generated works to users are mainly based on the following three considerations:

First of all, the user itself has strong control over the AI-generated object. The user sends instructions to the artificial intelligence, sets up the operation process and constantly modifies and improves it, and finally produces the artificial intelligence generator, the user's own familiarity with the generator has long exceeded that of other subjects, and assigning the copyright to the user can better incentivize the user's re-creating and re-producing, which is conducive to the further development and improvement of the artificial intelligence generator.

Secondly, granting copyright to the user is conducive to recognizing the subject of responsibility when the artificial intelligence generates infringement. "Who uses, who is responsible for", the user has experienced the whole process of creating artificial intelligence products, very understand and know the artificial intelligence in generating a series of information and factors used in the work, and clear all the instructions and requirements received by the artificial intelligence, once the artificial intelligence products subsequent infringement, the user as an In the event of subsequent infringement of artificial intelligence, the user, as the owner of the copyright of the artificial intelligence and the witness of the artificial intelligence in the whole process of generation, shall participate in the litigation and bear the burden of proof and defense, which is more operable.

Finally, the user's ownership of the copyright of the AI generation is conducive to the promotion of the personalized development of AI and the future development of AI. The user's own use behavior belongs to the further development of artificial intelligence, when the user owns the copyright of the

generator, it has the spiritual power and economic basis to improve the generator, in order to obtain higher profits and create higher value, the user will spare no effort to improve the generator of artificial intelligence, and make the expression of the generator of artificial intelligence more enriched and emotional, which not only contributes to the further improvement and development of artificial intelligence, but also helps to promote further coordination and integration of human beings and artificial intelligence, and enhances the future development of artificial intelligence in the face of human beings. This is not only conducive to the further improvement and development of AI generators, but also conducive to promoting the further coordination and integration of human beings and AI, and enhancing the ability of human beings to use new cultures and new technologies(Zhang,2025).

2.3 Attributable to the Design Developer

The designers and developers of AI products belong to the main body that designs and develops the underlying logic and overall framework of AI at the source stage, without the designers and developers of AI products, there will be no subsequent AI products, therefore, the designers and developers should be taken into consideration when judging the copyright attribution of AI products(Xu,2023).

However, at the same time, there exists a certain boundary between the AI-based design developer itself and the AI-generated object, and the design developer is not necessarily the closest and most direct creative subject of the generated object. Therefore, when judging whether the designer-developer can own the copyright of the AI-generated object or not, the degree of the association between the design developer and the generated object as well as its substantial contribution to the process of the creation of the generated object should be also taken into consideration(Tang and Niu,2023). If the designers and developers have a close practical connection with the AI generated works, it is not improper to attribute the copyright of AI generated works to the designers and developers, which is more conducive to incentivize the designers and developers to research and develop new AI software and promote the future development of AI.

2.4 Attributable to Investors

At present, the development of artificial intelligence is still in the stage of weak artificial intelligence, for

the issue of copyright attribution of AI generated objects, it should not only conform to the general principle stipulated in the copyright law, i.e., it should be attributed to the authors, but also give full play to the incentive efficacy of the copyright law. Attributing the copyright of AI generated works to investors is, on the one hand, based on interest-driven consideration, when investors enjoy the economic benefits brought by AI, they will naturally increase their investment in AI, thus further promoting the improvement and development of AI, and facilitating the advancement of weak AI to strong AI; on the other hand, it is based on the consideration that the rapid development of AI in recent years cannot be separated from the financial support and material maintenance of investors, and if there is no substantial investment from investors, AI cannot be developed to today's level, and from this point of view, there does exist a substantial connection between investors and AI generated works, and copyrights should be attributed to the investors(Tang and Niu,2023).

3 IDEAS FOR COPYRIGHT ATTRIBUTION IN ARTIFICIAL INTELLIGENCE

3.1 Attribution of Legal Personality to the AI itself

If the artificial intelligence itself wants to own the copyright of the artificial intelligence generator, it must have a legal personality, natural person personality or the legal anthropomorphic personality can be. However, based on the current level of development of artificial intelligence, this article believes that the artificial intelligence generates the copyright attributable to the artificial intelligence itself is not operable.

The current artificial intelligence can not have legal personality, in essence, is still a human tool, not only the research and development design needs to rely on human intellectual achievements, itself does not have innovation, its application and operation in practice also need to rely on human instruction and operation, can not run independently. At the same time, artificial intelligence does not have the right ability, behavioral ability, and can not independently assume civil liability. In the current legal framework, the subject with legal personality, such as companies, enterprises, are composed of natural persons, with the ability to exercise the rights, obligations, and fulfill the legal responsibility, and as mentioned above, the

current artificial intelligence can not satisfy the above conditions, therefore, the artificial intelligence does not have legal personality.

In conclusion, the copyright of the AI-generated objects cannot be attributed to the current AI.

3.2 Attributable to the User

Regarding whether the copyright of AI-generated content can be attributed to the user, there are two opposing viewpoints in the academic community. Scholars who deny the attribution of copyright to the user believe that the user does not embody originality in the process of using AI, and that although it participates in the process of generating the AI-generated content, it is not in compliance with the definition of creation in the Copyright Law(Wang,2020).

Scholars with a positive attitude believe that, although artificial intelligence is generated by investors' investment, research and development designers' research and development design, but implemented into the specific artificial intelligence generation, it is generated by the user to create artificial intelligence generation, and the user plays a decisive role in the final generation(Yang,2024).

This article believes that the copyright of artificial intelligence products should be attributed to the user for two reasons:

First, the specific form and content of artificial intelligence products are ultimately decided by the user, fully reflecting the user's attitude, emotion and will, compared with investors and R & D designers, the user put more labor into the specific products, embodied in the creativity is stronger, the user enjoys the copyright is more consistent with the legal theory. In the process of creation of artificial intelligence products, the user constantly optimize the instructions, improve the operation, and finally form the expected products, therefore, the copyright attributed to the user is consistent with the author-centrism.

Secondly, from the perspective of incentives, the closest contact with artificial intelligence generator is the user, the user is the most direct controller and disseminator of the generator, if the copyright is attributed to the user, it will be conducive to further stimulate the user's enthusiasm for creativity, and promote the further improvement and development of artificial intelligence generator in the process of operation and output, which is very beneficial to the sustainable development of artificial intelligence.

3.3 Attributable to the Design Developer

The emergence and rapid development of artificial intelligence cannot be separated from the research and development and design of the designers and developers, so it seems to be very reasonable for them to enjoy the copyright. However, there are two serious problems with this attribution logic.

First, the rapid development of artificial intelligence, a large number of technical support and repeated algorithmic deduction is the cornerstone, and these basic complicated work, only one or two people can not be completed, then there will be a copyright attributable to one person or to the group, and is not conducive to the ultimate solution to the problem of copyright attribution(Xu,2023).

Secondly, the designers and developers are developing the artificial intelligence itself, which is a kind of macro-basic technology, the correlation between the developers and the artificial intelligence is needless to say, but the correlation between the developers and the products of the artificial intelligence does not seem to be as close as the correlation between the products and the users, and it is not in line with the requirements of the subject of the work in the copyright law if the copyright of the products of the artificial intelligence is attributed to the designers and developers.

3.4 Attributable to Investors

In the development process of artificial intelligence, capital is often the most critical and fundamental factors, if there is no financial support, even if more design developers and users can not promote the rapid development of artificial intelligence, therefore, in judging the attribution of the copyright of artificial intelligence products should also take into account the interests of investors.

However, this does not mean that it is necessary to protect the interests of investors by attributing copyright to them. In practice, there are many cases in which investors do not have ownership rights but still obtain considerable profits. In the field of artificial intelligence, if you want to legally protect the interests of investors, you can do so by dividing the proceeds of the artificial intelligence itself between them and the designers and developers, without having to consider the issue of investors' copyrights at the stage of generating objects.

This is not only conducive to promote investors to continue to invest in artificial intelligence research and development enterprises or scientific research

team of funds and resources, for the future of artificial intelligence to lay the foundation for the long-term development and update iteration, but also more conducive to the protection of investors' own interests, practice the principle of investment protectionism, play the role of copyright incentives to balance the interests of all parties at the same time to promote the prosperity of the socio-economic, scientific and technological cultural progress.

In conclusion, this article believes that based on the current level of development of artificial intelligence and the comprehensive consideration of the interests of all parties, the copyright of artificial intelligence generation is attributed to the user is more reasonable.

4 CONCLUSION

This article focuses on the issue of copyright attribution of AI-generated products in the current level and stage of development, and analyzes and explores the possibilities and attribution ideas of copyright attribution of AI-generated products to the AI itself, users, designers, developers, and investors one by one, starting from the existing judicial decisions.

According to the current development of artificial intelligence and considering its future prospects, this article believes that it is more appropriate to attribute the copyright to the users, and the artificial intelligence itself cannot become the author in the sense of copyright law because it does not have legal personality; the designers and developers are closely related to the artificial intelligence, but the connection with the artificial intelligence products is weaker than the products and users; investors, although they invested a lot of money in the process of the development of artificial intelligence, but they are not as interested in the products as the users. There are more efficient and reasonable ways to protect their rights and interests in practice than attributing the copyright of the generated products to investors.

At the same time, attributing the copyright of AI products to users is not only in line with author-centrism, but also can play the role of encouraging users, which is conducive to promoting the long-term development of AI products in practice.

With the continuous development and improvement of artificial intelligence, there are many kinds of artificial intelligence generated products, in the future, the copyright of artificial intelligence generated products may be attributed to more subjects. However, no matter how the technology

develops, the issue of copyright attribution should always be handled in a prudent manner, and the interests of all parties should be taken into account, so as to provide a solid legal basis and guarantee for the development of artificial intelligence technology.

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