

Study on the Path of Generative Artificial Intelligence Copyright Protection under the Strategy of Intellectual Property Power

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Abstract

Generative AI copyright protection is in response to the inherent requirements of AI development and intellectual property protection. At present, generative AI copyright protection faces problems such as insufficient legal basis for prevention and control mechanisms, unsmooth preventive systems, and poor operation mechanisms. Therefore, to solve the dilemma of generative AI copyright protection, it is necessary to take the principle of risk prevention as the concept, clarify the legal basis for generative AI copyright prevention, reasonably define the scope of generative AI, establish a multi-principal protection system to protect generative AI copyright, introduce diversified ways to help generative AI copyright maintenance, and set up a composite responsibility system to solidify the generative AI copyright protection bottom line, and establish an administrative protection system to protect the copyright protection bottom line. The bottom line of copyright protection is an administrative protection path to help generative artificial intelligence copyright protection efforts to promote the healthy development of the two in the integration.

Keywords

Intellectual Property Power Strategy; Generative Artificial Intelligence; Copyright Protection.

1. Introduction

With the generative artificial intelligence copyright infringement gradually flooding, complexity, the traditional mechanism to prevent copyright infringement system overstretched, China is currently promoting the construction of intellectual property rights, generative artificial intelligence, although as a new thing in the past two years, should also be included in the scope of institutional protection. However, China's legal research on generative artificial intelligence copyright protection is still insufficient, the vast majority of scholars are still stuck in a single privacy infringement, data abuse, liability fuzzy, and other preventive content. Therefore, this paper tries to take the dilemma of generative AI copyright protection as an entry, to the administrative protection of copyright protection as the main line, to prevent the lack of legal basis, the regulatory system is not smooth and other issues to explore, to expand the regulatory body, change the way of prevention and other administrative protection path.

2. The Need for Generative Artificial Intelligence Copyright Protection

2.1. Difficulty of the Traditional Legal System for Copyright Protection in Responding to the Existing Situation

Since AI has a rapid response ability and high-speed output that cannot be achieved by human beings when creating work, the application of AI can produce a large number of creations in a short period, and it is difficult for the existing system to regulate these AI publications and

clarify their legal nature and infringement liability. The copyright market will easily be flooded by these "orphan products"[1], which will allow many unproductive people to use these works arbitrarily, which will cause a huge disorder impact on the copyright market. With the continuous application and development of generative AI in the fields of painting, music, and poetry, such technology, due to its convenient application and rich scenarios, generates content with strong value orientation and seductiveness, and thus can produce output with high-risk coefficients through simple manual prompts and algorithmic operation, which essentially amplifies the risks.[2] At present, the relevant governance subjects of generative AI are divided and governed, the mechanism for assuming responsibility is unclear, and the research on the prevention and control system shows a lack, so it is necessary to form a unified risk prevention principle at the level of practice, system, and theory, to provide the underlying logic for the governance of generative AI.

2.2. Helping to prevent and control the risk of intellectual property infringement

The rise of generative artificial intelligence has brought many risks to human production and life. Still, the greatest impact is the risk of intellectual property rights in the generation phase, because generative artificial intelligence has a high degree of intelligence. The attribution of intellectual property rights in computing has been subversive compared with the previous artificial intelligence system, so intellectual property rights risks have become the third major risk that generative artificial intelligence can not avoid. In the Interim Measures for the Administration of Generative Artificial Intelligence Services ("Interim Measures") released in July 2023, there are many references to "respecting intellectual property rights", "preventing infringement of intellectual property rights" and "not containing content that infringes intellectual property rights". content that infringes on intellectual property rights", reflecting the importance that the regulatory level attaches to the consequences of the damage to intellectual property rights that may be caused by generative artificial intelligence[3].

2.3. Contribute to the prevention and control of security and privacy risks

First, it helps to prevent and control much of the false information generated by generative AI. From the technical nature, the content generated by generative AI is a reorganization of various learning materials, and it has no judgment about the reasonableness of the generated content itself. In particular, like ChatGPT such a language model, its generated content is only the most semantically related to the user input material[4], its content may not be correct, and this trait determines that it may generate a large amount of false information. Second, it helps to prevent and control the public harm caused by the misuse of generative AI. Using generative AI models, lawbreakers can forge information in text, images, and even videos at a lower cost and higher efficiency, and use it to engage in crimes such as fraud, intimidation, and defamation[5]. At this stage, there have already been some cases of using generative AI to commit crimes. For example, since Stable Diffusion was open-sourced in 2022, it has been used to generate a large number of pornographic images, which have proliferated on major social forums[6]. Third, it helps prevent and control the risks that generative AI poses to privacy and personal data. Generative AI training requires data that may contain some users' private information. Leakage of this information or its theft by hackers may bring great losses to users. Although most of the newer generative AI products have encrypted and noised output, even under these conditions, people can still recover the original data and steal other people's privacy and personal information[7].

3. The legal dilemma of generative AI copyright protection

3.1. Inadequate legal basis for the protection

In recent years, China has continued to promote the regulation of algorithms in the Internet field, emphasizing the multiple purposes of safety and controllability, protection of rights and interests, and prevention of abuse, and has formulated regulatory measures based on the classification and grading of algorithmic applications, and has issued the Management Provisions for Algorithmic Recommendation of Internet Information Services, and the Management Provisions for In-depth Synthesis of Internet Information Services and other management and preventive norms[8]. The relevant norms put forward algorithm filing, security assessment, artificial intelligence-generated content labeling, and other system requirements. In recent years, in the face of the rapid development of ChatGPT-like generative artificial intelligence technology innovation, the Interim Measures hope to promote the healthy development and standardized application of generative artificial intelligence through the development of new regulatory norms. However, by combing through the existing norms, it can be found that, in terms of AI governance and regulation, although China has made clear the idea that development and safety go hand in hand, and innovation and ethics go hand in hand, the norms for guaranteeing the safety, reliability, and controllability of the technology application still need to be further improved while supporting and promoting the development and innovation of AI. In addition, in terms of the setting of legal rules, there are problems of incomplete rules and overly general provisions. For example, although the Interim Measures put forward compliance requirements for the accuracy of the generated content of generative AI products, the black-box model of AI services makes it almost impossible at present for there to be effective means of controlling the algorithmic operation of AI services and the generation of results, then the provider naturally cannot fully ensure that the generated content is true and accurate. If the service provider is required to audit the authenticity of every piece of data and generated content, then it will bring great operational costs to it.

3.2. Inadequate regulatory regimes for protection

Although China has introduced a series of governance norms on AI in recent years, and even some norms are leading in the global context. However, compared with the regulatory demands from the reality level, there are still many deficiencies and loopholes in China's current regulatory system. In terms of governance subjects, there are too many regulatory subjects and it is difficult to form regulatory synergy. At present, China's regulation of artificial intelligence mainly presents the status quo of multi-headed regulation, the relevant departments include the State Administration of Market Supervision and Administration, the State Internet Information Office, the Ministry of Industry and Information Technology, the Ministry of Science and Technology, and so on. Such a setup is of course in consideration of the fact that the risks caused by artificial intelligence will involve multiple fields, so the implementation of regulation in different fields and the formulation of corresponding policies naturally need to rely on the specialization of each department. However, the involvement of too many actors in the governance process will create new problems, such as regulatory competition and shirking[9].

3.3. Poor operational mechanisms for protection

According to the current legislation, if the artificial intelligence infringement is product liability, should apply to product liability infringement of Article 45; if not belong to product liability, should apply to the provisions of Article 44. However, artificial intelligence compared to traditional machine tools, has a stronger independent learning and subjective initiative. Based on this, in artificial intelligence infringement cases compared to traditional infringement cases, the determination of "subjective fault" is more difficult. Robot law stipulates that robots can not

harm humans and must obey human orders, but also robots need to protect themselves from harm. Artificial intelligence as a tool with a certain degree of autonomy, "human nature" and "physical" in which intertwined, the attributes of the object makes it difficult to determine the fault link of the infringement process, and the attributes of human beings can not fully obey human control. In terms of the means of governance, there is a lack of coordination and integration of administrative supervision, judicial review, and corporate autonomy. The government usually needs to rely on the help of the judiciary, enterprises, and technical experts to form a technological advantage and information advantage, in which the self-regulation of enterprises plays an important value. Since enterprises, as investors, developers, and users of AI technology, hold resources and information in various aspects such as capital, technology, talents, and markets, incorporating them into the governance process will greatly improve the efficiency of governance. However, in actual governance, governance is often implemented by the administration alone. Not only are enterprises not brought into play to assist government regulation, but court rulings are also not made public, giving play to the educational and deterrent effects of court rulings in letting citizens know the unlawfulness of certain behaviors.

4. Path Choice: The Way Forward for Generative Artificial Intelligence Copyright Protection

4.1. Clarifying the legal basis for generative AI copyright protection

The simplest and most direct technique to address the copyright risks of generative AI is to control generative AI through pre-determined norms. However, risk prevention deals with unpredictable future possibilities. In this regard, it is not possible to rely on predetermined norms to dictate what measures a generative AI should take in the face of what risks it faces. However, it is too hasty to conclude that generative AI risk prevention is beyond the scope of application of normative prior art. Preemptive normative techniques can still play a positive role in generative AI risk prevention, at least in the following ways. On the one hand, generative AI risk activities that have traditionally been subject to the full application of normative prioritization techniques must continue to be subject to prioritization norms. Emergency treatment and response to generative AI risk incidents are in many cases not beyond the scope of traditional AI management regimes and thus are not really "new" tasks. Only those risky activities that do exceed the current level of technology and knowledge fall under the generative AI management approach that can be modified by applying the precautionary principle. On the other hand, principles can also be used for guidance in cases where no specific rules can be identified. Legal norms include not only rules but also principles. Unlike rules that contain specific and clear instructions, principles convey abstract values and general guidance. Some basic principles that are generally applicable to the entire field of artificial intelligence, such as the principle of respect for intellectual property rights, the principle of anti-unfair competition, and the principle of respect for the legitimate rights and interests of others, can be applied to the management and regulation of generative artificial intelligence.

4.2. Rationally defining the scope of generative AI protection

The protection of generative AI generations cannot be applied to all content, as this would lead to the public being in a bind when applying ChatGPT, and would also be detrimental to the development of generative AI technology itself, so the protection of intellectual property rights of ChatGPT should be applied in a focused and selective manner. Advances in digital technology have led to fundamental changes in the process of creating, preserving, and distributing knowledge content (images, music, text, and video) generated by generative super AI[10], and these changes are mainly due to the content created by generative AI technology utilizing interpretable algorithms with practical value, such as the technical core of ChatGPT lies in the

interpretable algorithms part of it, and the content generated by interpretable algorithms has innovative value. The core of ChatGPT's technology lies in its interpretable algorithms, and it is the content generated by the interpretable algorithms that are innovative and original, so the interpretable algorithms and the content generated by them are the focus of ChatGPT's intellectual property protection[11].

To reshape the intellectual property protection system around the interpretable contents of ChatGPT, it is possible to reference the existing experience and combine the technical characteristics of ChatGPT to formulate its unique protection system. First, it is clear that the protection object of the intellectual property compliance protection system of ChatGPT is the interpretable content, including the interpretable algorithm and the specific content derived from the interpretable algorithm, and by constructing the protection system with this as the center of gravity, the center of gravity of the protection can be limited to the core value area of ChatGPT, so as to effectively protect the production capacity of ChatGPT. Secondly, to clarify the specific protection tasks of ChatGPT, divided into basic protection tasks and specialized protection tasks, the former mainly focuses on the general prevention of intellectual property protection, while the latter mainly focuses on the enhanced protection of ChatGPT's technological features, constructs a specific specialized management system with the role of prevention, monitoring and response, and introduces a differentiated management system based on the difference between generative AI and traditional analytical AI in the The introduction of differentiated management elements based on the difference in technical modes between generative AI and traditional analytical AI[12]. Third, to build a full-process protection for the interpretable content of ChatGPT, and to review the design and operation effect of the protection program of ChatGPT generators in the whole process, to avoid loopholes in the protection of intellectual property rights. Although the interpretable content of ChatGPT mainly focuses on the second half of content generation, the selection of basic data and the protection of intellectual property rights in the first half of the process should also be the subject, so as to realize the full-process compliance supervision of interpretable content. Fourthly, ChatGPT should introduce new protection technology, such as Digital Rights Management (DRM), to protect the intellectual property rights of interpretable content. DRM technology can be used to set access rights to interpretable algorithms in ChatGPT[13]. When infringing content appears in cyberspace, regulatory and protection agencies can delete infringing information and break infringing links promptly[14]. The application of DRM technology can provide technological support for the intellectual property protection system and can be used to build an integrated intellectual property protection system in conjunction with the ChatGPT technology while improving quality and efficiency. The application of DRM technology can provide technical support for the intellectual property protection system, and improve quality and efficiency while cooperating with ChatGPT technology to build an integrated intellectual property protection system.

4.3. Establishment of a Multiple Protection System for Generative Artificial Intelligence Copyrights

The risk analysis of generative AI shows the necessity of cross-sectoral and even cross-national cooperation in governance. China's Provisions on the Ecological Governance of Network Information Content emphasize that the main bodies of the ecological governance of network information content are the government, enterprises, society, netizens, etc., reflecting the idea of collaborative governance with the participation of multiple bodies within the state. Firstly, the government has more legitimacy than other organizations, and can ensure algorithm regulation and algorithm safety; secondly, the government can enforce law enforcement, and can ensure data stability, reliability, and compliance; and lastly, the government can better collect information and carry out coordination work to ensure work efficiency[15]. When the

effectiveness of the government's regulatory mechanism is not obvious, the energy of enterprises, society and individuals can be brought into play, so that the corresponding subjects can assume more responsibility for self-governance, especially in such a new field as generative AI, where the laws and regulations have not yet been fully updated, and the use of public-private paths can make the current means of governance play a greater role in releasing the social benefits to the full, while the concept of collaborative governance can also realize the reasonable distribution of algorithmic responsibility, to make the algorithms accountable to the ground.

5. Introduction of diverse generative AI copyright protection methods

On the one hand, optimize the data algorithm. On the one hand, optimize the fixed algorithm filtering system. Although different data algorithms differ greatly, there is a fixed filtering system behind each different algorithm. At present, it is not possible to optimize the data source of artificial intelligence, but the problem can be avoided as much as possible by constantly adjusting the data algorithm. For example, some sensitive words are filtered so that the final conclusions reached are more in line with legal and ethical judgments. The vocabulary will need to be rechecked revisited and filtered over some time. Second, upgrading AI's ability to identify dangers. From the perspective of preventing legal and ethical dilemmas, the theory of "dynamic management of danger" advocated by Fox is of great revelation. That is to say, we should optimize the ability of AI in danger identification, so that when ethical dangers occur, AI can react quickly and handle them according to the characteristics of big data[16].

On the other hand, regulation and governance should be strengthened. At the current stage, it is appropriate to adopt an inclusive, prudent, agile, and flexible regulatory mindset for generative AI technologies, platforms, and applications, and give greater tolerance and trial-and-error space to AI technological innovation. At present, generative AI has become the core position of global competition in the field of artificial intelligence, which is not only related to technological sovereignty and digital sovereignty but also to the future industrial system and even the comprehensive strength of the country. The EU's AI regulatory mindset adjustment and the UK's AI governance framework all hope to build and enhance their competitiveness in the field of AI through innovation-friendly regulatory and governance measures. And Given the continuously accelerating pace of AI technology evolution, rigid and stringent legislative and regulatory requirements targeting companies in the early stages of technology development may hinder and inhibit AI innovation and counterproductively limit the ability of all sectors of society to respond quickly to future technological breakthroughs and advances. Therefore, an agile and flexible regulatory mindset is more appropriate when it comes to generative AI governance. This means, first, adopting different regulatory rules for different generative AI products, services, and applications based on application categorization and risk grading, and regulation should avoid generally targeting AI technology itself or the industry as a whole; second, continuously innovating the regulatory toolkit and adopting diversified regulatory initiatives, such as regulatory guidelines, regulatory sandboxes, pilots, demonstration applications, safe harbors, and after-the-fact recourse, and other more Flexible and easy to iterate the regulatory approach, to do a good job of "promoting innovation and development through regulation", while realizing safety, rights and interests protection and other regulatory objectives. For example, one of the major innovations in AI regulation in the EU is the proposed AI Regulatory Sandbox[17], which as an effective way to support and promote communication and collaboration between regulators and innovative entities, can provide a controlled environment for the compliant research and development, testing and verification of innovative AI applications. The best practices and implementation guidelines that emerge from

the Regulatory Sandbox will help businesses, especially MSMEs and startups, to implement regulatory rules.

6. Establishment of a Composite Generative Artificial Intelligence Copyright Protection Liability System

At present, in our legal system, artificial intelligence does not qualify as civil subject. That is to say, in the future, China's attitude towards artificial intelligence still stays in the stay of weak artificial intelligence, although there is big data in the role, but in essence still stays in the stay of the tool, and there is no difference with the traditional products[18]. Therefore, even if the big data-based artificial intelligence caused by the tort liability, should not be the data owner's responsibility, but the artificial intelligence product producers and sellers to bear the corresponding responsibility. Specifically should be combined with the relevant provisions of the infringement, the following subjects should bear the corresponding responsibility for their infringement behavior. First, the scope of responsibility of the producer. According to the provisions of Articles 1202 to 1207 of the Civil Code on "product liability", if the artificial intelligence used in the end product is defective, and the artificial intelligence chips and services (artificial intelligence products) used in the end product are provided by other individuals or companies, the user of the product can demand the producer of the product to bear the responsibility of infringement. can demand that the producer of the product be held liable for infringement[19]. In addition, a producer knows that his or her AI product is defective and fails to take timely remedial measures such as warning and recall and causes infringement to others, he or she should also be liable for infringement. Second, the scope of responsibility of the seller. Can also be based on the civil code articles 1202 to 1207 of the "product liability" provisions. However, the seller is liable for fault, because the seller's fault makes the artificial intelligence defective, and the seller is liable for the damage of others. In addition, if the seller cannot specify the producer of the defective AI or the supplier of the defective AI, the seller should also bear the tort liability. For example, if the AI product is seriously damaged due to his fault during sales process, he should be liable for compensation. Third, the scope of responsibility of the user. If the user is aware of improper operation, resulting in the infringement of others, then also needs to distinguish the situation for liability[20]. In practice, there are several situations. First, the company's staff in the demonstration of intelligent products operating improperly on others caused by the infringement. At this time, according to the provisions of the infringement, the employer is to bear the responsibility of infringement. Second, other people use the product improperly caused by the tort liability[21]. At this point, according to the establishment of the elements of tort liability, it is necessary to prove whether other reasons such as human operation caused the occurrence of the damage consequences, whether there is a causal relationship between the operation behavior and the damage consequences, and whether there are ambiguities or misunderstandings in the description of the product function and introduction that may cause the user to lower the level of attention. If a positive conclusion can be reached, then the user should be held liable for the result.

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