An Analytical Framework for Rights and Interests in Content Generated by Generative Artificial Intelligence

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Abstract

This paper explores the relationship between artificial intelligence and copyright, encompassing issues such as the AI development and learning phase, the generation and utilization phase, and whether AI-generated works constitute works protected under copyright. During the AI development and learning phase, non-exploitative utilization may be conducted without the permission of copyright owners. In the generation and utilization phase, if AI-generated works exhibit similarity to and dependence on existing works, it becomes necessary to obtain permission from copyright owners or apply copyright limitation provisions. Furthermore, this paper discusses whether AI-generated works qualify as copyright-protected works and the question of authorship. If AI-generated works are regarded as "tools" employed by humans to creatively express thoughts and emotions, they fall within the scope of works protected under copyright, and the AI user is considered the author. When utilizing AI for generation, it is necessary to consider whether copyright infringement occurs, and how to obtain permission from copyright owners or make substantial modifications.

Full Text

Rights Analysis Framework for Content Generated by Generative Artificial Intelligence

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Abstract

This article explores the relationship between artificial intelligence and copyright, encompassing issues related to the AI development and learning phase, the generation and utilization phase, and whether AI-generated works qualify for copyright protection. During the AI development and learning phase, utilization activities conducted without the purpose of enjoyment may proceed without permission from copyright owners. In the generation and utilization phase, if AI-generated works exhibit similarity to and dependency on existing works, permission from copyright owners or application of copyright limitation provisions becomes necessary. Furthermore, this article examines whether AI-generated works constitute copyright-protected works and who should be considered the author. If AI-generated works are regarded as "tools" used by humans to creatively express thoughts and emotions, they qualify as copyright-protected works, and the AI user is considered the author. When utilizing AI for generation, it is necessary to consider whether copyright infringement occurs and how to obtain permission from copyright owners or make substantial modifications.

Keywords: artificial intelligence; copyright-protected works; author; copyright limitations and exceptions; AI-generated works

1. The Importance of Content Rights for Generative Artificial Intelligence

The development of generative artificial intelligence has attracted widespread attention in recent years, with its impacts on society, economy, science, and technology becoming increasingly evident. Against this backdrop, content rights for generative AI have assumed critical importance. These rights not only concern the immediate interests of creators but also serve as a key factor in incentivizing innovation and promoting the healthy development of AI technology.

China has attached great importance to AI development. As early as 2020, the Standardization Administration of China and four other departments issued the "Guidelines for the Construction of the National New Generation Artificial Intelligence Standard System" to strengthen top-level design in AI standardization and promote healthy and sustainable development of the AI industry [1]. The following year, on September 25, 2021, the National Governance Committee for New Generation AI released the "Ethical Norms for New Generation Artificial Intelligence" (hereinafter referred to as the "Ethical Norms"), aiming to integrate ethics throughout the entire AI lifecycle and provide ethical guidance for individuals, legal entities, and other organizations engaged in AI-related activities [2]. On July 29, 2022, the Ministry of Science and Technology and five other departments issued the "Guiding Opinions on Accelerating Scenario Innovation to Promote High-Quality Economic Development through High-Level AI Applications" [3]. Subsequently, on July 13, 2023, the Cyberspace Administration of China, together with the National Development and Reform Commission, Ministry of Education, Ministry of Science and Technology, Ministry of Industry

and Information Technology, Ministry of Public Security, and National Radio and Television Administration, promulgated the "Interim Measures for the Administration of Generative Artificial Intelligence Services," which took effect on August 15, 2023 [4].

The significance of establishing a content rights framework for generative AI lies in creating a clear and reasonable rights protection environment for its healthy development, based on a thorough understanding of its technical characteristics and application scenarios in conjunction with the current legal system. This represents not only respect for creators and developers but also encouragement and support for technological progress and social innovation. The rationale can be elaborated through four key considerations. First, **incentivizing innovation and creation**: Generative AI has extensive applications in literature, art, science, and technology. When these applications produce original works, unclear rights attribution may dampen creators' enthusiasm. Clear content rights ensure that creators receive proper rewards for their work, thereby motivating them to invest more time and effort into innovation and creation. Second, **promoting healthy technological development**: Clarifying content rights helps foster a sound legal and market environment for technological development. When creators' and developers' rights are protected, they become more willing to invest resources and technology in R&D, driving generative AI toward higher levels of advancement. This also attracts more capital and talent into the field, providing sustained momentum for technological progress. Third, **clarifying legal relationships and reducing disputes**: Applications of generative AI often involve complex technical and legal issues that can lead to rights disputes. Clarifying content rights helps define legal relationships among parties and reduce unnecessary disputes and litigation, thereby conserving judicial resources. Fourth, **aligning with the existing legal system**: When exploring content rights for generative AI, we must not overlook alignment with current legal frameworks. Using the Copyright Law as the guiding principle enables clearer analysis of the relationships among AI-generated works, protected works, and authors, providing a legal basis for defining content rights. This ensures that new technologies receive appropriate legal support while avoiding excessive disruption to existing legal systems.

Clarifying the relationship between artificial intelligence and copyright is crucial for the development and application of AI technology. Exploring this topic helps us better understand AI's role in the creative process and how to protect creators' rights. In light of this, we take the currently effective Copyright Law as our guiding framework to specifically analyze the relationships among AI-generated works, protected works, and authors.

1. AI Development and Learning Stage

The relationship between the AI development and learning stage and copyright primarily concerns whether AI-generated works receive copyright protection during this phase. During AI development and learning, AI-generated works may

serve only non-enjoyment purposes such as information analysis, thus not requiring permission from copyright owners. However, if AI-generated works are used for enjoyment purposes or cause unjustified harm to copyright owners' interests, permission becomes necessary.

For example, an AI generator used during its development phase to analyze literary works to help users better understand them serves a non-enjoyment purpose of information analysis and therefore does not require copyright owners' permission. However, if the same AI generator is used to produce new literary works for commercial purposes, permission from copyright owners must be obtained.

2. Whether AI-Generated Works are Copyright-Protected

Whether AI-generated works qualify as copyright-protected works must be determined on a case-by-case basis. If an AI-generated work is independently created and possesses originality and creativity, it qualifies as a copyright-protected work. Conversely, if it merely constitutes simple copying or adaptation of existing works, it does not qualify for copyright protection.

For instance, if an AI generator produces new literary works during the generation and utilization phase that exhibit originality and creativity, these works qualify as copyright-protected. However, if the AI generator merely performs simple copying or adaptation of existing literary works, the resulting works do not qualify for copyright protection.

3. AI Generation and Utilization Stage

The relationship between the generation and utilization stage and copyright primarily concerns whether AI-generated works receive copyright protection during this phase. During generation and utilization, if AI-generated works are used for enjoyment purposes and cause unjustified harm to copyright owners' interests, permission from copyright owners is required.

For example, if an AI generator produces new literary works during the generation and utilization stage for commercial purposes, permission from copyright owners must be obtained. The definition of "enjoyment" refers to utilization of copyright-protected works that is not for the purpose of enjoying or enabling others to enjoy the thoughts or emotions expressed in such works.

4. Application of Copyright Limitations and Exceptions to AI-Generated Works

Copyright limitations and exceptions stipulate that during the input stage of copyright-protected works, if the input activity does not constitute enjoyment-based utilization of the copyrighted expression and generally does not cause disadvantage to copyright owners, such input activity may be deemed non-infringing. During the output stage, if the output activity falls under copyright limitation provisions, it also does not constitute infringement.

5. Authorship of AI-Generated Works

Evaluating the creative contribution of AI-generated works requires consideration of multiple factors, including originality, innovation, artistry, and technicality. A comprehensive assessment must weigh these factors based on specific circumstances.

Originality refers to the uniqueness demonstrated during the creation process—whether the AI-generated work possesses characteristics and personality independent of other works. For example, a literary work generated by AI that features unique storylines, character profiles, and language style may be considered to have originality.

Innovation refers to the novelty demonstrated during creation—whether the AI-generated work contains innovative elements different from other works. For instance, a musical work generated by AI that employs entirely new musical styles and arrangement techniques may be considered innovative.

Artistry refers to the aesthetic value demonstrated during creation—whether the AI-generated work possesses artistic beauty and expressive power. For example, a painting generated by AI that features unique color combinations and compositional techniques may be considered artistic.

Technicality refers to the technical level demonstrated during creation—whether the AI-generated work employs advanced technology and algorithms. For instance, an image generated by AI that utilizes the latest image generation technologies and algorithms may be considered technical.

6. Relationship Between AI-Generated Works and Existing Works

The similarity and dependency between AI-generated works and existing works refers to a certain degree of similarity between them, where AI-generated works rely on existing works during creation. This similarity and dependency may result from AI-generated works using existing works as training data or referencing elements such as style, themes, and plots from existing works during creation.

For example, consider an AI generator trained on a large corpus of literary works to produce new literature. If the generated works exhibit certain similarities to existing literary works and the generator relies on existing works during creation, these generated works may be considered AI-generated works that have similarity and dependency relationships with existing works.

7. Conclusion: The Relationship Among AI-Generated Works, Authors, and Source Works

The development and application of generative artificial intelligence present unprecedented challenges and considerations, particularly in the copyright domain. Regarding the relationships among AI-generated works, authorship, and source

works, we must engage in thorough examination and discussion to ensure that technological progress proceeds alongside adequate protection of creators' rights and promotion of cultural prosperity.

First, whether AI-generated works qualify as copyright-protected works requires case-by-case determination. If AI-generated works are independently created and possess originality and creativity, they qualify as copyright-protected works. If they merely constitute simple copying or adaptation of existing works, they do not qualify for copyright protection.

Second, authorship of AI-generated works must also be determined case-by-case. If AI-generated works are independently created and possess originality and creativity, they qualify as copyright-protected works, and the AI user is considered the author. When utilizing AI for generation, it is necessary to consider whether copyright infringement occurs and how to obtain permission from copyright owners or make substantial modifications.

Third, the relationship between AI-generated works and existing works involves a certain degree of similarity and dependency. This may result from AI-generated works using existing works as training data or referencing elements such as style, themes, and plots from existing works during the creative process.

As generative AI technology continues to advance, its relationship with copyright will become increasingly intertwined. We should encourage technological innovation while ensuring that creators' rights are fully respected and protected. This requires collaborative efforts from legal professionals, technologists, academics, and society at large to explore a clear path toward harmonious coexistence between generative AI and copyright. In future developments, we anticipate achieving a balance and mutual benefit between technological progress and copyright protection.

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Note: Figure translations are in progress. See original paper for figures.