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Copyright Issues and Innovation Incentives in AI-Generated Content (AIGC)

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Abstract

The rapid advancement of AI-generated content (AIGC) is profoundly reshaping the framework of cultural creation and knowledge production, prompting people to experiment with technological progress. From writing articles and generating images to composing music, AI's creativity is entering our lives at an unprecedented pace, continually expanding our understanding. Simultaneously, it presents two critical challenges: Who holds the copyright for these algorithmically "conceived" works? And how does determining ownership impact incentives for innovation? Traditional copyright law systems are built upon the foundation of "human author-centricity." When the creator becomes a machine, this centuries-old framework struggles to keep pace. To address the vulnerabilities in protection and resolve the conflict between humans and AI, this paper will delve into this legal dilemma, enumerate its impacts on innovation incentives, and discuss feasible measures from individual, corporate, and national perspectives to mitigate AIGC risks. The issue of copyright attribution for AI-generated content is not only about ensuring creators and designers can work with peace of mind and investors can have confidence, but also about steering technology toward a sustainable development path. This ensures that the AI-driven wave of innovation can progress steadily and far, truly benefiting human society.

Keywords: AIGC; AI-Generated Content; Copyright; Legal System; Innovation Incentives; Rights Attribution

1. Introduction

Currently, AI-generated content (AIGC) no longer elicits mere technological awe but has sparked a profound crisis of norms. When an AI-painted artwork won an art competition and the ensuing copyright dispute rapidly escalated from industry circles to public scrutiny, it became abundantly clear that AIGC copyright issues are no longer theoretical debates that can be postponed. Instead, they represent a practical bottleneck that threatens the healthy development of the entire industry. Law excels at regulating relationships between humans, yet it struggles with

determining copyright ownership for works generated by “artificial intelligence.” Should AI be treated as a tool akin to a paintbrush, with all rights vested solely in its operator? Or should we acknowledge that AI models themselves embody the massive investment and ingenuity of their developers, thereby constituting a new creative entity? This uncertainty is gradually eroding innovation enthusiasm. For content creators, it remains unclear whether AIGC outputs generated through meticulously crafted prompts will receive legal protection. For AI developers, if all value produced by their models is automatically attributed to users, the economic incentive for ongoing foundational technological innovation will dissipate. Therefore, this paper confronts these issues head-on, aiming to transcend the superficial debate over “who holds the rights.” It delves into the mechanisms by which the copyright vacuum stifles each link in the innovation chain and strives to construct a solution framework that balances operability, fairness, and forward-looking vision. This framework provides essential theoretical support for the standardization and sustainable development of the AIGC industry.

2. Core Controversies in AIGC Copyright Attribution

2.1. Copyright Analysis of AIGC: Criteria for Recognizing Generated Works

The emergence of AI-generated content represents a significant advancement in technology, with its attribution as content drawing widespread attention—specifically, whether the resulting creations share the same definition as human works. This question sparks ripples of thought. Some propose that under the idea-expression dichotomy, AI-generated content aligns with its definition and thus qualifies as "artistic works" (Zhu, 2024). Others contend that AI-generated content constitutes replication of training data, with many claiming "striking similarities" to multiple existing works (Chang, 2025). Affected authors assert that their legitimate rights and interests have suffered significant harm. This implies that some view AI-generated content as replicating their unique "ideas" and appropriating identical "expressions" for public display, thus constituting "plagiarized works."

To reduce misjudgments in evaluating AI-generated content, we must understand the concept of "work" and apply case-by-case analysis. A "work" embodies intellectual expression, can be imitated in tangible form, and possesses distinctive style and refined taste (Lazar, 1995). Therefore, "originality" is naturally emphasized repeatedly. The 2019 World Intellectual Property Conference in London explicitly stated that AI-generated works must involve human intervention to qualify for copyright protection—a recognition that AI-generated content constitutes "original" works. Simultaneously, the Beijing Internet Court's first-instance ruling on an AI-generated content case recognized that such content reflects the plaintiff's intellectual investment and is protected under copyright law. This ruling also serves as evidence that AI-generated content qualifies as a "work" based on "originality." Today, the working principles of AI-generated content are transparent: it merely analyzes and deconstructs training data to regenerate new content. While it does not replicate training data and possesses formidable learning capabilities. In reality, AI cannot comprehend the generated output or content—it lacks human-like cognition. For instance, when interacting with ChatGPT or DeepSeek, responses are tailored to the user's

phrasing, creating the illusion of "tone" that feels vivid rather than mechanical. This is merely a simulation based on pre-programmed data provided by developers (Miao, 2023). It is precisely through humans' continuous refinement of prompts that AI gains the ability to "think." Consequently, AI-generated content is inherently a human creation.

2.2. Diverse Perspectives on Copyright Attribution

The attribution of copyright for AI-generated content remains a hotly debated topic, with academia witnessing a resurgence of diverse viewpoints. How then should copyright ownership be determined? Some argue that AI owners or designers also meet the criteria for copyright entitlement (Xiong, 2017). In 2018, Tencent sued Shanghai Yingxun Technology for copying and widely disseminating articles generated by Dreamwriter, a writing bot jointly developed by Tencent's team. This case exemplifies protecting AI designers' copyright. The disputed articles were created collaboratively by Tencent's team—the designers—and possessed "originality." However, the final ruling was misinterpreted as granting copyright over AI-generated works to the designers. It should be noted that the reason the designers were deemed copyright holders in this case was that Dreamwriter served merely as a vehicle for the company's operational methods and intellectual contributions. It was operated by users, who also happened to be the designers.

Compared to the relationship between AI and its designers, the connection between users and AI appears more direct. Upon transaction, users acquire substantive usage rights. The content materials and original instructions provided by users, when processed by AI translation, gain "vitality"—meaning AI-generated content exhibits independence and creativity under the user's direction (Yang, 2021). Therefore, this paper leans toward the doctrine that copyright for AI-generated works belongs to the user.

3. Impact of Copyright Gaps on Innovation Incentives

3.1. Potential Risks of AI-Generated Content Across Various Fields

Through billions of training cycles on input data, AI increasingly meets diverse user demands, directly fueling its growing popularity. However, emerging technologies often carry inherent shortcomings. For instance: - Voice actor Wu Yang's voice was cloned for restaurant promotions - An image of a child crushed under collapsed buildings during the January 2025 Tibet earthquake gained widespread attention but was later confirmed AI-generated - Illegal theft of individuals' facial features for AI face swapping used in pornography, fraud, and spreading rumors These incidents starkly highlight the risks of AI-generated content, including infringement of personal rights and misleading consumers, posing significant individual and societal hazards. Therefore, it is imperative to accelerate the refinement of management systems for AI-generated content (Yao & Li, 2023). From an educational perspective, condoning minors' premature use of AI to generate answers for teacher-assigned homework only weakens children's critical thinking while enhancing plagiarism skills. As educators, we cannot tolerate this foolish trend spreading among students. It is imperative to issue restrictions on internet usage frequency and urge AI developers to prioritize responsible practices (Merine & Purkayastha, 2022). Beyond harming students' academic development, teachers themselves face "technological lag" in AI adoption. Inadequate familiarity

with AI generation processes may yield suboptimal educational outcomes. To bridge this gap, schools should provide teacher training to keep pace with technological advancements, thereby mitigating losses from insufficient training resources and career development opportunities (Chi et al., 2025).

Inadequate training of AI by designers can perpetuate societal biases and stereotypes unique to human culture. For instance, inputting "nurse" often generates female imagery, while "doctor" predominantly produces male representations. Requesting an image of a "boss" yields four images of businessmen, despite "boss" being a gender-neutral term. This increases the risk of poisoning users' values and imposing "colored glasses" (Chen et al, 2023). These risks reveal that AIGC lacks explicit provisions addressing copyright infringement of subject rights. The resulting disputes among users, designers, and society—along with the absence of countermeasures and penalties—present an inevitable future challenge.

3.2. The Inhibitory Effects of AI-Generated Content on Users and Designers

The continuous evolution of AI-generated content has gradually revealed remarkable market potential. For instance, China's AI market expanded by 500 billion yuan between 2016 and 2021, fully demonstrating technological innovation (Wei, 2018). However, the classification of copyright remains undefined, usage boundaries have not been established, and proper management remains a significant challenge.

For users,the instability of rights attribution causes unease among most people. Assigning rights to AI would historically overturn the concept of legal personhood, forcing acceptance that robots enjoy equal rights to humans. This sparks pressure against “anthropocentrism” and raises questions about violating humanitarian principles. AI's ability to generate artworks at low cost and in bulk through massive data collection and model analysis greatly indulges users' mental and behavioral laziness. However, some users employ AI not for creation but to “escape reality”—for instance, fabricating an image of being an elite in the art world. They refuse to invest the effort and precious time required to hone skills comparable to those of genuine artists. This leaves true creators with ambition but limited means, diminishing their sense of accomplishment. Thus, the accumulation of these issues will gradually intensify distrust toward AI. Once it crosses the threshold of user tolerance, the market for AI-generated content will face a grim future of stagnation and hardship.

From the designer's perspective, without sufficient funding and resources, designers cannot continue to update the software further. It is well known that training and running large AIGC models requires massive computational resources, consuming vast amounts of electricity and water for cooling data machines, producing harmful gases like carbon dioxide, and polluting the environment. Simultaneously, economic pressures weigh heavily on designers. Developing top-tier AIGC requires immense computational power, data, and capital for both development and deployment. However, technological and economic power is concentrated in the hands of a few tech giants, intensifying monopolistic practices and stifling market competition. Consequently, relying solely on licensing fees from users cannot recoup the enormous R&D and data acquisition costs, thereby dampening innovation incentives and collapsing the return mechanism. Moreover,

AIGC creations may inadvertently involve collecting copyrighted works and transforming them into new outputs based on user prompts. Should stylistic similarities be detected, accusations of plagiarism inevitably arise, potentially entangling designers in legal disputes.

Allowing issues to fester will lead to abuses of power and illegal activities in the AI-generated content market, potentially causing unnecessary public panic. Consequently, the lack of copyright protection for such content is a major reason why AI has not yet reached a stage where it can be incentivized.

4. Measures for Individuals, Enterprises, and Nations to Mitigate AIGC Risks

The journey toward AI-generated scientific research is long and arduous. Given the current challenges, we can approach solutions in three phases: short-term, medium-term, and long-term.

In the short term, priority should be given to establishing the most urgently needed legal framework. Draft regulations can be piloted before formal implementation, using contracts to define clear boundaries of cooperation and constrain both AI designers and users to exercise rights responsibly. This approach aims for mutual benefit and shared accountability. Alternatively, collaborating with legal scholars to establish a cooperative platform like could provide a mutually beneficial space for users and designers (Fajardo et al., 2012). Alternatively, copyright attribution could be determined by comparing the contribution levels of both parties' work, though this alone may not sufficiently bolster the credibility of its implementation. Once outcomes are finalized, professional human oversight bodies should monitor the entire process, document proceedings through video recording and review logs, ensuring fairness and impartiality while flexibly adjusting judicial practices. Facing user distrust of AI-generated content, decision-makers must determine whether to trust model recommendations in various scenarios. This demands high decision-making capability from users. Scholars cite high-risk fields like medical diagnosis and financial investment as examples, demonstrating that strong skepticism toward AI-generated content doubles the frustration (Zhang et al., 2020)and aversion when errors occur . For AI developers aiming to lead in this field, robust enterprise risk management is indispensable. The initial step involves identifying, assessing market conditions, and prioritizing organizational risks—known as Risk Control Self-Assessment (RCSA) (Lam, 2017). This enables leveraging existing achievements, enhancing future efficiency, and mitigating irreversible losses from risks.

In the mid-term phase, as AI technology matures, research proposes the "AIGC+" concept, predicting that AI-generated content will occupy a significant position (Wan et al, 2024) in digital economy markets spanning work, daily life, and education. This paper argues that this phenomenon will become particularly prominent on the internet during the mid-term phase.To fully leverage this positive development, legislative measures or amendments are needed to address legal gaps and establish unified, human-controlled legal frameworks. This should begin by defining principles for determining "authorship," providing clear legal grounds for users driving AI applications. Establishing AIGC rights protects designers' legitimate interests, incentivizing their creativity and innovation. Appropriately attracting and expanding organizational investment in AI-generated technologies, leveraging substantial funding to broaden

application scope, prepares for meeting user demands. With the rapid growth of the internet, statistics show that the number of online users continues to be enormous. It is necessary to establish an official feedback platform, regularly distribute suggestion boxes to the community, and collect public opinions to improve the flaws in AI-generated technology. This feedback should then be returned to the platform through a dual personalized feedback mechanism (Wu et al., 2022), democratizing the improvement of AI-generated content.Companies in this field must also conduct ideological work with software or robot designers, reinforcing their awareness of actively fulfilling their obligations.

Finally, in the long-term phase, when AI-generated technology and related regulations have matured, initial legal precedents will be reviewed based on public feedback to further refine the statutory licensing system for AI-generated content. Solutions demonstrating strong effectiveness in the first two phases will be selected for continued implementation. Break free from single-minded thinking, call for international attention to AIGC issues, promote global coordinated governance, strengthen multi-party cooperation, avoid "regulatory vacuums" and "legal conflicts," and achieve global synchronization.

5. Conclusion

Three core controversies surround AIGC: the copyrightability of works, liability and accountability, and future prospects. In essence, intellectual creations resulting from human input merit copyright protection, meaning AIGC copyright belongs to the user, with liability determined by the extent of their contribution. Given the conflicting interests between users and designers, this paper advocates establishing models for shared benefits between the two parties to foster a harmonious technological environment and build a collaborative platform. Looking ahead, the rapid advancement and maturing of AIGC technology are projected to hold significant importance in the digital economy. Through international collaboration, in-depth exploration of AIGC's impact on other intellectual property rights—such as patents and trademarks—will yield solutions. However, technological advancement far outpaces legal refinement. While verification of certain perspectives remains pending, diversified conceptualization will accelerate research progress. This advancement relies on scholars' ideas and experiments. Personal improvement is also crucial for steering AI-generated content toward the right path. Mutual coordination between designers and users will be key to its sustainable operation and a pivotal turning point for incentivizing content innovation.

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