

On the Legal Nature of Copyright for Content Generated by Artificial Intelligence

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Abstract. The copyright disputes over AI-generated works essentially boil down to determining their originality and the proportion of human involvement. At present, there remain gaps in the ownership allocation rules based on the level of human input, and the existing copyright law also has inadequate provisions on the subjects of infringement liability and its constitutive elements. This paper conducts research based on the dual-track criterion of "objective originality + subjective contribution". At the qualitative level, this criterion not only aligns with the current technological level but also abides by the basic requirements of copyright law for the subjectivity of human creation. At the level of right ownership, classification shall be made according to the differences in human participation: where humans are fully involved, the relevant rights shall be enjoyed by natural persons; where human input is limited, reference may be made to British legislation to vest the copyright in "the party that has completed the basic preparations for the generation of the work"; where multiple parties participate jointly, the subject of right ownership shall be determined in accordance with the norms governing joint works and service works. At the level of infringement determination, it is necessary to first clarify the scope of liability of three types of subjects—algorithm developers, platform service providers and users—based on the principle of fault liability, and examine fault in combination with obligatory elements, so as to balance the contradiction between promoting innovation and protecting rights and interests.

Keywords: AI-generated content, copyright, originality

1. Introduction

Major advances in the field of artificial intelligence have led to the widespread acceptance of AI-generated creations in the literary and artistic communities, challenging the existing copyright legal system, which is centered on human creation. Determining the legal nature of AI-generated content, ascertaining whether it qualifies as a work, and further defining the subjects of rights and the criteria for infringement have become unavoidable issues in the current copyright field.

Scholars have put forward three theoretical views: the "work theory," which advocates copyright recognition and protection for original AI-generated content [1]; the "non-work theory," which insists on the primacy of human authorship and denies AI the status of a legal subject [2]; and the

"neutral theory," which suggests a case-by-case analysis based on the degree of human involvement [3]. Each of these views has its own foundation, yet controversies persist.

Drawing on existing academic explorations, this paper establishes a dual evaluation standard—"objective originality combined with subjective contribution"—for the qualitative issue. It conducts a typological study of copyright ownership based on differences in the degree of human participation, and further explores the subjects of infringement liability and the relevant constituent elements. The aim is to provide theoretical references for the implementation and improvement of copyright law in the era of artificial intelligence.

2. The legal characterization of AI-generated content

AI-generated content lacks natural persons as the creators of works under traditional copyright law, thus posing challenges to the copyright system constructed around human creators. The legal characterization of AI-generated content, namely determining whether it can constitute a work, has become the logical starting point for addressing a series of copyright law issues in the digital age.

2.1. Controversies over the characterization of AI-generated content

Regarding the legal nature of AI-generated content, three main views currently exist in academia: the "work theory," the "non-work theory," and the "neutral theory," each revolving around different legal bases and interest considerations.

The "work theory" holds that as long as the generated content meets the formal requirements for a "work" under copyright law—namely, originality—its status as a work should be recognized [1]. Indeed, AI algorithms operate on the basis of data and models, and their outputs can produce "new expressions" beyond the scope of the training data, which in itself embodies a certain "algorithmic originality." There are already international precedents acknowledging that computer-generated productions are protected by copyright law; for example, Section 9(3) of the UK Copyright, Designs and Patents Act 1988 provides for the author and ownership rules for "computer-generated works."

Regarding whether AI-generated content can become a work within the meaning of copyright law, supporters of the "non-work theory" adopt a relatively conservative and cautious stance, rooted in the traditional copyright doctrine of "human author-centrism." The cornerstone of copyright law is the protection of the intellectual creative activities and moral personality of natural persons. AI, however, lacks legal personality and has no independent will or thought. Its "creation" process merely executes pre-set algorithms and data analysis, lacking creative intent and emotional expression; therefore, its output is merely a technical product or the result of data computation, not a work [2].

The "neutral theory" attempts to compromise between the two aforementioned views. This perspective is more contextual, arguing that whether AI-generated content constitutes a work should not be decided in a one-size-fits-all manner, but rather on a case-by-case basis according to the degree of AI involvement and the nature of human participation [3]. For instance, when AI is used merely as a tool for creative conception and revision, and the final content mainly reflects the intellectual contribution of a human author, it can be recognized as a work.

2.2. Criteria for characterizing AI-generated content

From the three views above, it can be seen that the criteria for determining whether AI-generated content constitutes a work mainly revolve around two dimensions: objective originality and

subjective contribution.

On the one hand, the generated content itself must possess "originality," which serves as the value foundation for obtaining copyright protection. In the context of AI-generated content, the examination should focus on the objective result. First, the uniqueness of expression: whether the content differs substantially from existing expressions, rather than simply copying, splicing, or template-based output of training data. Second, the creativity of structure: for example, a unique logical framework and narrative style in text, or creative composition and aesthetic arrangement in artistic works [4].

On the other hand, "subjective contribution" is also an important consideration, i.e., whether there exists an intellectual contribution originating from a human in the creative process. Since AI does not belong to civil law, it is required to look at whether a natural individual has been dominating the picture of individual decisions and intellectual domination over the generation process. The substantive judgment is whether human intervention in the generation process becomes the level of a creation, such as; making complex and specified prompts to build an expression of creativity and the use of multiple iterations, selections and substantive arrangements to establish the final expression, by taking major control over the formation of final expression [3]. In case human involvement is simply a simple giving of a starting instruction, the same cannot be used to satisfy the subjective qualification of being an author in the legal sense [5].

To conclude, in order to determine the presence of AI-generated content as a work, it will be worth starting with the analysis of whether the content has objective originality, and after that, establish whether a subjective intellectual effort was made by a human. This two-sided standard is not only valid in technological reality but also follows the fundamental principle in the copyright legislation half, which is human authorship, which forms a rational background on any further debate regarding the ownership of copyright and the establishment of infringement.

3. Copyright in AI-generated material

The copyright of AI-generated material belongs to its creator, provided that the automatons do not violate the rights of others or cause damage to their reputation. The issue of copyright ownership is a critical point that must be addressed after the legal definition of AI-created content has been established. If the generated content is deemed a "work," the rights holder must be specified. If the content is not a work, the distribution of the interests arising from the resulting content must also occur in accordance with established rules. The subsequent exercise of rights and the determination of infringement liability are fundamentally based on this issue of ownership.

3.1. Major tenets of copyright ownership

The following principles are primarily applicable to the ownership of copyright in AI-generated works.

First, there is the principle of authorship. This is the fundamental guide in the ownership of copyright. It stresses the fact that copyright is the result of the intellectual creative labor of natural individuals. As mentioned, AI does not have the requisite legal personality and thus cannot be the author as per copyright law. The most essential consideration of ownership is, therefore, to determine whether a natural person or a legal entity contributed a creative intellectual effort in the generation process, in the sense of copyright law, towards forming the final expression.

Second, the principle of the balancing of interests. According to this principle, ownership rules must be structured in consideration of the interests of various parties [6]. They need to promote

unending investment and creativity among developers of AI technology and secure the valid rights of the populace to access and utilize facts, avoiding challenges to the spread of knowledge and cultural progress. The rule of ownership should find a balance between protecting investment, increasing innovation, and preserving the common domain.

Third, there is the principle of freedom of contract, which permits the flexibility to formulate ownership. Users and developers of AI technology can pre-contract with each other on the rights ownership in the content created with the assistance of this technology via user agreements, technical service contracts, and other legal instruments. This facilitates understanding among all parties and may minimize transaction costs.

3.2. Ownership typologies in AI-generated content

When the above principles are applied in combination, the ownership of copyright in AI-generated content must be examined through a typology based on the nature and degree of human involvement in the generation process.

First, a scenario occurs when people are heavily engaged in the creative process and are dominant in the creativity. In situations where a user retains key control in the process of AI generation and the user's input to the process has passed the test of subjective contribution, the user can fulfill the title of an author and gain copyright. The 2023 U.S. Copyright Office Policy Statement is explicit in indicating [5] that once a human exerts creative control over AI-generated material to a sufficient degree, including the selection and arrangement of the same, a copyright for the final work in which such material appears can be filed, and authorship of the work can be attributed to the human. Here, the ownership of copyright is simple and quite obvious: it belongs to the natural person who created the artistic work.

Second, a different outcome arises when the level of participation of human beings is minimal, with only initiating instructions given. If the user merely gives out simple commands, and the subsequent form, formatting, and explicit expressions of the content are all made by AI, without the user performing any substantive iterative control or creative ways of arrangement, then it would be hard to identify the role of the person as the "author" in the sense of copyright law. At this stage, the UK solution can be borrowed, where the rights are assigned to the person by whom the arrangements essential to the making of the work are made. This serves to protect the interests of their investment and that of their organization, without committing to the difficult task of directly determining authorship.

Third, ownership must be considered in a case of two or more parties cooperating. In instances where the intellectual contribution made by each party is significant to the originality of the final content, and the generation process includes developers, operators, users, and other parties, then the resulting work might be classified as a joint work or a work made for hire. Where this occurs, the rights and their exercise ought to be decided based on the agreements of the parties and the character of contributions made, in accordance with the clauses of copyright law regarding joint works or works made on hire.

In conclusion, the ownership of copyright in AI-generated content should take human creative contribution as the key criterion, while also considering the interests of investment and organizational arrangements, and respecting the intentions of the parties. Clear rules should be adopted to promote technological innovation and the rational use of content.

4. Infringement liability for AI-generated content

When AI-generated content causes harm to the rights and interests of others, determining infringement liability becomes an applied-level challenge that must be addressed after the qualitative standards and ownership have been decided. Due to the involvement of multiple subjects and the opaque nature of the technological process, the imputation process faces new problems.

4.1. Subjects of infringement liability for AI-generated content

The infringement process of AI-generated content involves three categories of actors: algorithm developers, platform service providers, and end-users [7].

The legal liability of algorithm developers arises from compliance requirements during the training data stage. When technical personnel use copyrighted content without authorization during model training, or fail to properly filter infringing materials, they may face liability for direct infringement. At this point, it is appropriate to distinguish between technological development risks and malicious applications, so as not to unduly restrict innovation [8].

As service providers, the extent of a platform's responsibility is a focal point of judicial discretion. Under Chinese regulations, generative AI services are classified as "services" and should be subject to the principle of fault liability as stipulated in Chinese civil law. In the "Ultraman case," the Hangzhou Internet Court indicated that determining platform liability requires balancing profit channels, technical management feasibility, the possibility of identifying infringement, and the effectiveness of preventive measures [9]. If a platform profits from pushing infringing content or fails to act after becoming aware of infringement, it may be deemed to have contributed to or induced infringement.

Users, as the direct initiators of AI-generated content, bear responsibility for the prudence of the instructions they issue. The legal basis for this responsibility lies in the "theory of control over intent"—users have exclusive control over their input instructions, can foresee and avoid the infringing consequences that such instructions may cause, and therefore should bear corresponding duty of care. If a user continues to issue instructions knowing they are infringing, they should bear direct liability for infringement; if they fail to notice signs of infringement due to negligence, they should bear liability for negligence [10].

4.2. Constituent elements of infringement for AI-generated content

The four constituent elements for establishing infringement liability for AI-generated content are the infringing act, damage, causation, and fault, which need to be refined in light of the technological attributes [7].

Regarding the infringing act, it is necessary to distinguish between direct infringement and contributory infringement, analyzing whether the generated content is substantially similar to another's original expression [11]. In judicial practice, one must look beyond the technological surface, strip away the external form of the AI-generated content, and focus on whether the generated content is substantially similar to the original expression of a pre-existing work, thereby accurately determining whether it constitutes infringing reproduction or unauthorized adaptation.

As for damage, harm to absolute rights such as copyright, portrait rights, and reputation rights, as well as pure economic loss, fall within this category. For example, in a case concerning AI-generated voice infringement, the court ruled that using voice samples without authorization to train AI and produce content constituted infringement of voice rights [12]. In the case involving an

AI-synthesized video of Stephen Chow, the infringer's unauthorized collection of facial information to generate a video violated the subject's portrait rights [13].

And with respect to causation, technological process is rather unknown and disorienting to track. To this end, the doctrine of adequate causation is widely followed which analyses whether the infringement act was a major contributor to the occurrence of the damage [14]. As an example, when it comes to the infringement by AI hallucinations, the court ruled that the misleading value of the information produced by the AI was not significant to the choice made by the plaintiff, and thus no definite cause-and-effect relationship was established [15].

With regard to fault this is an important and a challenging aspect of determination, the level of fulfillment of the duty of care illustrates directly the level of fault. In this case, the theory of dynamic system is applied to outline 3 significant obligations of care to providers, i.e., the first, the obligation to thoroughly examine the illegal content; the second, the obligation to explicitly mark AI-generated content with its core restrictions; the third, the duty of basic reliability, i.e. try something with the common methods in the field, to enhance the accuracy of information. The aspect that a platform has met the required needs proportional to its information management feature is also of significance in the determination of faults.

On the issue of damages, proportionality principle should be extended, in totality which strikes the balance between platform liability scopes, the worth of technological invention, and the infringement facts, in order to establish reasonable compensation thresholds. The given arrangement neither only establishes an essential relief to the right holders but also avoids limiting the progress of technologies due to high compensation, which is a policy orientation between rights protection and industrial innovation. Liability can be spread at their discretion on platforms which have duly discharged their duty of care; punitive damages can be sought in the case of malicious user to create a dynamic balance on encouraging innovation and guarding right [9].

5. Conclusion

The dual criterion of objective originality and subjective contribution is used in this paper to answer the main debate around whether AI-generated content can be a work, with a legal characterization framework being created that is both conceptually and practically viable. At the institutional level, it creates typological rules of ownership, depending on the extent of human involvement, the areas of the current legislation still left open about the issue of rights allocation. On the infringement determination level, it establishes the scope of liability of three categories of subject persons algorithm developers, platforms, and users, and offers a useful adjudication system through which the judiciary ought to exercise their jurisdiction. The shortcomings of this paper remain: the difficulty of AI in the creative subject, the process of data training through licensing copyright, and the contradictions of regulations related to cross-border generated content are all aspects that future analyses will need to explore in-depth.

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