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The Dilemma and Regulation of the Application of the Fair Use Doctrine in the Context of Generative Artificial Intelligence—A Comparative Study of China and the United States

Xinjie Li

Law School, Nankai University, Tianjin, China
Lixj1020@outlook.com

Abstract. Under the context of rapid and explosive growth in generative artificial intelligence technology, its large-scale use of copyrighted works has significantly impacted the current copyright system. Among them, the fair use doctrine is trapped in the dilemma of difficult rule application and ambiguous boundaries of judgment, lagging behind the novel emerging application scenarios driven by artificial intelligence innovation. Thus, it shows an urgent need for further improvement. As a global pioneer in artificial intelligence research and development, the United States has initially established a judicial logic centered on the determination of transformative use and the assessment of market substitution effect for such disputes,which is rooted in the case law system. Based on clarifying the specific infringement risks in the data input and output phase, this study, by sorting out the dynamic evolution of rules through typical cases in the United States and considering the current situation in China for reference and exploration, it put forwards targeted countermeasures such as revising hierarchical provisions, setting information disclosure obligations, and strengthening regulatory coordination mechanisms. Eventually, it aims to offer a practical reference for the rule optimization and application improvement of the fair use doctrine in the field of artificial intelligence applications, which resonates with China's legal framework.

Keywords: fair use, generative artificial intelligence, data model training, US copyright law, transformative use

1. Introduction

With the rapid advancement of contemporary digital technology, generative artificial intelligence, as an emerging service, has brought convenience to daily life while simultaneously posing a challenge to the existing copyright law. The blurred boundaries of infringement due to technological changes have been highly controversial in judicial practice. Fair use is a common defence in copyright infringement lawsuits. However, it no longer adequately covers scenarios in the context of generative artificial intelligence. The lag in regulations will lead to the disorderly abuse of this

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claim, making it difficult to control the risk of rights loss for the corresponding copyright holders. Eventually, it will cause an imbalance between public interests and the copyright holders, undermining the original intentions of legislation. Therefore, how to activate the normative value of the fair use standard in the new intelligent field and reshape legal boundaries for technological behavior has become an urgent problem to be solved.

To address such emerging legal risks, China promulgated the Interim Measures for the Administration of Generative Artificial Intelligence Services (hereinafter referred to as the Interim Measures) on 13 July 2023, which established principle-based guidelines on issues related to the copyright of artificial intelligence. However, it lacks an explicit clarification on the nature of generative artificial intelligence's use of works. At this point, fair use as an exception regime can provide certain normative safeguards for current judicial practice. As another global hub for cutting-edge technology, the United States not only confronts the severe challenge of legal vacuums arising from emerging technologies similarly, but also shows advantages in its fair use elements that have been profoundly shaped by a tradition of judicial law-making. Through the dynamic evolution of a series of judicial precedents, the US has accumulated valuable experience in exploring frontier domains. Moreover, it also reveals numerous practical risks of technology-leading rules under the post-event regulation model, which offers a reference for the reshaping of China's regulation.

Current academic research on the applicability of fair use within generative AI operations mostly focuses on the less controversial infringement of reproduction during the data collection stage, while there is comparatively less analysis directed at the output phase. Even within the field of reproduction rights, numerous judicial challenges remain unresolved due to the complexity of model training and data utilization patterns. For instance, although the Interim Measures stipulate the obligations of service providers to explain their training data, they do not impose a mandatory obligation on providers to disclose information about their training datasets. Consequently, technology companies typically withhold model development processes to avoid liability risks, which makes it difficult to obtain evidence of copy infringement [1]. Furthermore, the generated work may be formed through abstract learning of patterns from a vast number of works, which means substantial similarity to the original work does not have to be achieved through direct copying. A maturely trained generative artificial intelligence model may not contain replicas of the original work, but merely include information related to the training data within its latent space. The model can operate independently of the trained data during the input-output process, thereby generate works that are totally different from the original data, relying on its memory of this information. During this process, even if it involves the reproduction of the original work, it is largely imprecise and often exhibits a low replication rate [2]. However, it is unreasonable to exclude such instances from infringement solely on the technical aspect since this increases the risk of copyright holders suffering harm. All of these requires continuous examination of judicial dilemmas in the data input phase, and broaden our perspective to encompass the output phase of works simultaneously, progressively improving subsequent legal gaps arising in the context of novel technology. This study clarifies the applicability disputes of fair use across different stages of generative artificial intelligence, explores regulatory adaptation pathways from both domestic and international perspectives, and ultimately builds a systematic governance framework grounded in the local context, providing solutions for judicial practice.

2. Infringement risk of artificial intelligence generated works

The model training of generative artificial intelligence requires the acquisition and aggregation of a large amount of external data, gradually building up its own huge content repositories for machine

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learning. This process is essentially the absorption, imitation, and transformation of numerous existing works, so it is bound to involve the reproduction and utilization of others' existing creations. In order to cut costs, most developers do not obtain permission from the rights holders and paying the copyright fee, which falls within the regulatory scope of copyright law. However, the internal operation of machines in processing information resemble human brain in learning, their mechanisms cannot be externalized [3]. Consequently, apart from entirely novel creations that clearly do not constitute infringement, other scenarios can only be categorized into distinct infringement types based on the degree of similarity between the generated work and the original. Should the output work be an exact replica of the original, it constitutes an infringement of the reproduction right identical to that occurring during the data input phase. If the output work differs from the original but exhibits substantial similarity, attention must be paid to the boundary between idea and expression: works produced through conventional means such as borrowing organizational approaches do not infringe the reproduction right. Should the output work possess a degree of originality yet constitute an extension or adaptation built upon the expression of the original work, there exists a risk of infringing the adaptation right [4]. Daniel Schönberger contends that during training, large AI models do not directly copy or alter copyright-protected works. Instead, they extract patterns, rules, and structures from vast datasets automatically. This kind of usage should be regarded more as information acquisition and technological innovation rather than copyright infringement through reproduction [5]. The author believes this perspective has certain limitations. Although machine learning involves generalized learning from large amounts of unspecified works, it still needs to distil creative patterns by interpreting and assimilating specific sets of original expressions. This process inevitably involves the act of reproduction, which is controlled by exclusive rights. Copyright law focuses on the act itself, rather than merely its purpose or outcome. Even if a model is not intentionally designed to mimic copyrighted works, it may ultimately replicate them to the extent of infringement. Machine learning models sometimes reproduce characteristics of input data rather than reflecting underlying trends. In professional terms, such models are overfitted [6]. Therefore, even for the purpose of information acquisition or technological innovation, this act of reproduction still poses a real risk of infringement and need to be subject to the examination of copyright law. Additionally, a minority of commentators hold that the use of works during generative artificial intelligence training is non-specific and intermediate utilization. They argue this should be defined as non-copyrightable use and thus excluded from copyright protection [7]. For instance, Wang Qian and Chu Chu pointed out that temporary reproduction is an objective technical phenomenon that occurs incidentally. It is a brief reproduction of a work in memory and will not produce a copy with liquidity, usability, and independent economic value [8]. The author thinks that simply defining this training process as an intermediate use and directly denying the possibility of infringement is a restriction of fundamental value of copyright, which potentially damage the rights-based interest balance pattern. This approach excessively expands the profit space for corporate technical training, undermining legislative objectives. With the increasing number of generative artificial intelligence infringement cases emerging, the current legal framework is unable to provide precise and robust responses.

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3. Analysis of the domestic and international application of the fair use doctrine in the context of the new intelligent field

3.1. Analysis of domestic rules

When a certain act during the process of artificial intelligence generating a work constitutes copyright infringement, the fair use exception need to be considered to determine liability exemption. Article 24, paragraph 1 of China's Copyright Law lists some circumstances of infringement exemption for fair use. However, it has not yet involved explicit provisions concerning generative artificial intelligence created works. Moreover, its catch-all clause is based on the premise of other regulations, lacking practical guiding significance. Consequently, in the context of the emerging digital intelligence where the traditional licensing mechanism for works has failed, the standards for fair use lack applicable support, leading to a dilemma in judicial adjudication. For instance, in the judgment of a copyright infringement case involving generative artificial intelligence, the Intermediate People's Court of Hangzhou City cited Article 7 of the Interim Measures, stating that the defendant platform used the plaintiff's Ultraman work for targeted training and generated content similar to the original work's image without permission, directly profiting from this technical service and accumulating competitive advantages. During the process of model generation and application, it inevitably caused damage to the Ultraman works that the plaintiff has legitimate rights to. Clearly, this can not be included in the scope of fair use as stipulated by law [9]. The author contends this judgement partially confirms the practical possibility of copyright infringement in works generated by artificial intelligence and provides preliminary judicial guidance within the existing legal framework. However, due to variations in model training and output methods, related infringement behaviors cannot be generalized. It is necessary to analyze each case specifically, and judicial standards also need to be further clarified.

3.2. Examination of overseas approaches

3.2.1. Evolution of U.S. judicial precedents

In the 2015 Authors Guild v. Google Inc case, the US Federal Court provided preliminary guidance on the application of fair use elements in data input. The plaintiff, a certain writers' association, sued Google for copyright infringement by digitizing books on its search engine without authorization. The court, citing the views in Harper & Row Publishers Inc v. Nation Enterprises and Campbell v. Acuff-Rose Music Inc case, clarified that the core elements of fair use are the first and fourth factors, namely "the nature and purpose of use" and "the effect of the use upon the potential market value" of the copyrighted work. In terms of the first factor, the court adopted the transformative use standard first proposed in Campbell v. Acuff-Rose Music Inc case. That is, the stronger the transformative nature of the user for new purpose for the reproduced material, the more it conforms to the goal of copyright law to enrich public knowledge, and the less likely it is to substitute for the original work [10]. In this case, Google's collection of books is mainly aimed at facilitating users to retrieve information they need by identifying the frequency of search terms within texts, rather than to replace the original works. Therefore, the court determined that the defendant had an innovative purpose and constituted fair use. This judgement also sets a significant precedent for admitting that training large language models with copyrighted content constitutes "transformative use". Most contemporary scholars also acknowledge the applicability of transformative use assessments during model training phases, arguing that such copying is an incidental replication in the technical process

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and has a strong purpose of creative transformation, which can be regarded as fair use [11]. Moreover, Andrew W. Torrance and Bill Tomlinson further contend that permitting the application of fair use principles during data input stages can foster the development of artificial intelligence and social progress [12]. The author endorses this position. As for the fourth factor, the Appellate Court noted that Google Books the final presentation of Google Library was mostly scattered and discontinuous fragments, with no single excerpt exceeding 16% of the original work. This was insufficient to cause a significant reduction on the market for the original work or create a substitute effect, thus meet the standard of fair use. In addition, the court cited the viewpoint of the Supreme Court to clarify the relationship between the factors, that is, the more consideration given to the first factor, the less significant the fourth becomes, which reflects the equity of the doctrine.

The Google case opened the door to fair use for training generative artificial intelligence, but subsequent judicial practice began to reflect upon and deepen the boundaries of this standard. Then in 2025, US courts made their first substantive judgement on copyright infringement disputes concerning artificial intelligence data training in the Thomson Reuters Enterprise Centre GmbH et al v. Ross Intelligence Inc case. The judgment first clarified that if Ross Intelligence had merely used Westlaw database case summaries to learn judicial opinion writing techniques without disseminating them publicly, transformative use would have been established. However, unlike previous cases that focused on transformative use, the court here emphasized that the defendant had a commercial competition intent to replace the plaintiff's product. Despite other factors potentially supporting fair use, the court ultimately determined that the defendant did not constitute fair use based on the commercial purpose [10]. Beyond establishing a preliminary framework for adjudicating artificial intelligence copyright infringement, this judgement reflects the evolving trend of US courts to progressively restrict the application of the fair use principle in the new intelligent context, thereby reshaping legal boundaries.

In summary, the fair use doctrine has applicability in the training of generative artificial intelligence models. However, its assessment contains a comprehensive balancing of interests, centred on whether transformative use and market substitution effect occurs. Among them, the transformative use still need to be judged by specific cases, while market value assessment relies on high transparency and traceability of data. Unlike Google Books, internal usage data fragments from generative artificial intelligence are typically not public information, making it more difficult to obtain significant evidence. Existing regulations do not set information disclosure obligations. At the same time, other factors must be taken into account in individual cases to gradually establish rigorous review standards.

3.2.2. Domestic reference and exploration

China previously incorporated the four elements of the fair use from US into judicial decisions. However, following the 2020 revision of the Copyright Law, the most significant change in the fair use provisions was the full integration of the “three-step test” from the implementing regulations into the Copyright Law itself, which means that China has abandoned the application of the four element approach, The court has not directly used the concept of transformative use since then [13]. Moreover, as demonstrated by American judicial precedents, the transformative use standard itself is highly abstract, and the assessment of factors such as commercial purpose and market substitution effect relies on judicial discretion and value judgement. Therefore, a mere transplantation of norms would not only conflict with the existing closed provisions under China's written law system, but also lead to inconsistent judgement due to the lack of a unified interpretation standards, resulting in unjust outcomes for similar circumstances. How to integrate foreign experiences under China's

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existing legal system to establish a localized harmonization pathway is an imperative demand for addressing rights risks in the context of new technologies.

4. Legal adaptation recommendations

4.1. Revision of specialized provisions: establishing graded application rules

4.1.1. Classifying generative AI models by tier

Within the judicial context of "judges interpreting law" in China, adjudicators can only carry out constrained to innovative interpretations within existing frameworks, with limited scope for individual to create norms. Moreover, compared to the attitude of the US Copyright law that prioritizes technological innovation and dissemination, China requires greater emphasis on protecting individual rights under the extension of the personal-based copyright. Therefore, the scope of fair use must be strictly limited. Based on retaining existing catch-all provisions, special provisions can be supplemented and revised in the field of artificial intelligence generation, dividing the data training model into different levels. This would ensure statutory scope while preventing basic clauses from being amended due to technological evolution, thereby activating the practical value of catch-all provisions. Firstly, classify non-reproducible and non-commercial models under fair use, restricting their training materials to publicly available works or licensed data; Secondly, models developed for substitution or commercial competitive purposes should be explicitly excluded from fair use. Finally, for other intermediate models such as "text-to-art" or "text-to-expression" systems, under the overall guidance of the three-step test, appropriate consideration may be given to the transformative purpose of the work's use and the profit in the original work's dissemination, with the requirement that there must be substantial stylistic differences between the original and derivative works.

4.1.2. Refining transformative use standards

For intermediate models, it should be further clarified that transformative use requires satisfying two conditions: firstly, it must serve the public interest of disseminating knowledge, art, etc. Secondly, the reproduced portion must not exceed an appropriate proportion. For instance, technology platforms could introduce visual assessment tools to quantify replication levels through work comparisons, establishing threshold standards based on general proportional principles, such as limiting direct reproduction to no more than 30 percent of the entire work. This would provide relatively clear guidance for judicial application.

4.2. Establishing information disclosure obligations

Inspired by the fourth element of the US fair use doctrine, the potential market impact of using the original work should also be a key consideration. This is inseparable from the disclosure and transparency of data usage information. Therefore, adding the information disclosure obligation of developers under the aforementioned special provisions will not only significantly reduce the court's information retrieval costs and improve judicial efficiency, but also resolve the challenge of evidence collection for copyright infringement during the data input stage.

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4.3. Refining the dynamic filing and supervision mechanism

To ensure the social effect of the application of the regulation, the state should also refine relevant supporting measures to facilitate enforcement. The specific actions include two aspects. Firstly, we are supposed to supervise enterprises in establishing copyright traceability systems, embed traceability identifiers in artificial intelligence generated works, and record the authorized source and usage ratio of model training, while simultaneously adjusting user instructions and algorithm parameters to retain traceability information. Secondly, the National Copyright Administration can collaborate with internet enterprises and judicial appraisal institutions to establish an artificial intelligence copyright supervision platform, integrating multiple business such as evidence preservation, tracking and dispute mediation. Furthermore, it can circulate regulatory information to court litigation system to enhance the efficiency of regulatory enforcement and dispute resolution.

5. Conclusion

The fair use doctrine faces judicial disputes such as rigid norms and ambiguous application in the copyright system that has been severely impacted by technological innovation. Although the foreign experience of the United States is difficult to be directly transplanted due to differences in legal systems, its consideration in transformative purpose and market substitution risk provides logical reference for refining China's fair use standards. Based on a clear understanding of the infringement risks in data training, this study, proposes improvements suggestions grounded in China's judicial context. Drawing on and transforming foreign judicial thinking approaches, it gives suggestions for revising hierarchical provisions, setting information disclosure obligations, and strengthening regulatory coordination mechanisms in response to the research gaps. While due to the emphasis on the overall framework of copyright governance, there is still a room for deepening the analysis of the differentiated regulatory demands of different industries. In the future, we may further analyze the local adaptability of rules in combination with fields such as cultural creativity and scientific research, and continuously pay attention to the impact of technological iteration on the current governance framework to promote dynamic refinement.

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