



Research on the Dilemmas and Improvement Paths of Applying Copyright Law to Style Imitation in AI-Generated Music

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Abstract. The breakthrough in generative artificial intelligence technology has made music style imitation possible, posing new challenges to traditional copyright law. While a musical style itself is not protected, original expressions incorporating that style may constitute a work. The AI imitation process consists of two stages: training, which may infringe the reproduction right, and generation, which may infringe the adaptation right or invoke the application of anti-unfair competition law. Current copyright law faces dilemmas such as ambiguity in determining originality in human-computer collaboration and difficulties in proving the "access" requirement for infringement. Future regulation should prioritize interpretative approaches within the framework of copyright law, while simultaneously introducing anti-unfair competition law as a supplement, to balance technological innovation and rights protection.

Keywords: AI-generated music, Style imitation, Copyright law, Idea-expression dichotomy, Anti-unfair competition law

1 Introduction

With the advancement of deep learning and natural language processing, generative artificial intelligence has achieved rapid development and been widely applied from text and image creation to music composition, represented by emerging platforms such as Suno and Udio. Capable of creating original melodies and simulating the musical characteristics of specific artists, AI-style imitation music has triggered intricate copyright disputes in commercial utilization and cultural communication[1]. The core debate focuses on the legal definition of musical style under the idea-expression dichotomy, as well as the infringement risks existing in AI model training and content generation, including improper use of training data and substantial similarity between AI outputs and original works. Current studies mainly concentrate on copyright governance of textual and visual AIGC and the general ownership and protectability of AI-generated content[2], while specialized interdisciplinary research targeting musical style imitation still remains inadequate. Against this backdrop, this paper systematically explores the applicability of copyright law to AI music style imitation, analyzes the

legal composition of musical styles, sorts out layered infringement risks in the whole technological process, and discusses the practical limitations of existing copyright regulations. It further attempts to build a compound governance mechanism combined with copyright interpretation and anti-unfair competition principles, so as to offer theoretical and practical references for relevant judicial adjudication and institutional optimization.

2 The Legal Attributes of Musical Style Elements and Their Position in Copyright Law

Legal evaluation of musical style imitation first requires a legal qualification of the object "musical style," necessitating a translation from musicological description to legal concept.

From a musicological perspective, musical style is typically composed of multiple elements. First are technical elements, including specific chord progressions like the twelve-bar blues in blues, the canon progression in classic pop songs, and fixed rhythmic patterns like the triple meter of a waltz. Second are expressive elements, involving timbre selection, vocal or performance tone, vibrato treatment, etc. Third are identifying elements, which may point to highly personal musical phrases, signature opening or bridge melodies, or even non-musical, overall auditory sensations strongly associated with a particular artist.

From the perspective of copyright law, the constitutive elements of musical style require a hierarchical legal qualification. The foundational principle of the idea-expression dichotomy must be reiterated. [3]Musical style, as an abstract artistic concept, creative method, or aesthetic preference, belongs to a higher level of abstraction and falls within the category of "idea," which, in principle, cannot be monopolized by anyone. For example, the overall stylistic concepts of rock or country music belong to the public domain of creative resources.

The *scènes à faire* doctrine and the merger doctrine need to be introduced for specific analysis. [4]The *scènes à faire* doctrine dictates that when an idea can only be expressed in very few ways, those expressions are also unprotected from monopolization of the idea. Certain stylistic conventions, such as specific chord progressions in blues, may fall under this principle due to limited means of expression. The merger doctrine states that when expression is inseparable from the idea, that expression is also unprotected; some fundamental rules of musical creation fall into this category.

However, this does not mean all style-related expressions are excluded from protection. The key lies in strictly distinguishing between the abstract style itself and the specific original expression derived from it. When a series of stylistic elements—such as melodic fragments, harmonic arrangements, rhythmic designs, and timbre combinations—are selected, arranged, and integrated in a unique way to form a whole with a minimum degree of creativity, that specific combination of expressions can constitute an object protected by copyright law.[5] In short, style as an idea is not protected, but stylized expressions incorporating personalized creation and originality can be protected. For instance, the jazz style itself cannot be monopolized, but a specific jazz piece

containing a unique saxophone melody, piano improvisation, and walking bass line can enjoy full copyright protection.

Therefore, the core of the legal assessment of AI's imitation of musical style lies not in judging whether it references an abstract style, but in examining whether its generated content improperly uses protected original expressions from prior works.[6]

3 Deconstruction of the AI Style Imitation Process and Analysis of Legal Risks

AI achieving musical style imitation typically involves two core stages: training and generation. The legal nature and risks of these two stages differ.

This usually refers to developers using massive amounts of musical work data to train AI models, enabling them to learn statistical patterns and models. From a copyright law perspective, this training behavior inevitably involves the reproduction of the musical works used as training data. Unless such use can constitute fair use, this act of reproduction may constitute an infringement of the reproduction right. Currently, there is debate in academia and practice over whether the fair use system under China's Copyright Law can accommodate such large-scale reproduction for model training purposes.[7]

This stage involves the model generating new musical content based on what it has learned and according to user instructions. The legal risks at this stage require case-by-case analysis: if the generated content is substantially similar to a specific protected work in the training data, it may infringe the adaptation right or other rights of that work. In this case, AI acts as a tool for infringement, and related liability typically rests with the user or developer. The problem lies in the difficulty of proving a copying relationship between the generated content and a specific work—that is, meeting the infringement determination standard of "access plus substantial similarity"—due to the black-box nature and probabilistic randomness of the generation process.[8] Particularly regarding the "access" requirement, even users or developers may not know whether the model encountered that specific work during training.[9]

A more common and complex scenario is where the generated content is not highly similar to any single work, but its overall style and combination of elements distinctly point to a specific musician, to the extent that the relevant public may be confused or mistakenly believe the music originates from that musician or is associated with them. In such cases, it may be difficult to establish infringement of a specific expression within the copyright law framework. However, such behavior may unfairly exploit the artistic reputation and commercial value accumulated by others over time, constituting free-riding. This creates space for the intervention of anti-unfair competition law. [10]Article 6 of China's Anti-Unfair Competition Law prohibits acts of unauthorized use of other's certain influence commodity names, packaging, decorations, or other identifiers that cause confusion. Although musical style itself is not a typical commercial identifier, when a certain combination of stylized expressions establishes a stable and unique correspondence with a specific artist, becoming an identifying mark of their artistic identity, it may be regarded as a protected commercial achievement. AI-

generated style-imitative music that is sufficient to cause confusion may constitute an act of unfair competition.

4 Dilemmas in Applying Current Copyright Law to Style Imitation

Applying current copyright rules to AI musical style imitation faces multiple practical dilemmas.

Judicial practice uses "minimum degree of creativity" as the standard for determining originality. [11] In musical style imitation, users often only input highly general instructions, with the core content generated autonomously by the algorithm. Currently, there is a lack of uniform judicial standards for determining whether the originality of the output derives from the algorithm or human instruction. This not only affects whether AI-generated content can be recognized as a work but also directly relates to subsequent issues of rights ownership and infringement determination.

Copyright infringement determination requires "access plus substantial similarity." [12] In the field of music, proving that an AI model "accessed" a specific work during training is particularly difficult. Training data and algorithms constitute core business secrets and technical barriers for companies, making it hard for rights holders to obtain relevant evidence legally. Even if the generated content is highly similar to prior work, the actor can still defend with reasons like independent creation, leading to difficulties for rights holders in protecting their rights due to an inability to provide proof.

Copyright subjects are limited to natural persons, legal persons, etc.; AI itself cannot be an author. In style imitation, developers, users, platforms, and other parties participate jointly with dispersed contributions, forming a new type of creative formation. Current law lacks rules for attributing ownership for such outputs, making it impossible to directly apply traditional work categories for definition, which can easily lead to disputes over benefits and hinder the standardized development of the industry.

5 Improvement Paths for AI Musical Style Imitation

Faced with the legal challenges posed by AI musical style imitation, a multi-layered legal regulatory system with copyright law at its core and anti-unfair competition law as a supplement should be constructed.

At the level of copyright law application, fine-tuning of adjudication rules is needed. Facing the human-computer collaboration model, the determination of originality should shift from examining the subject's identity to examining the creative process. If the user does not merely provide general style commands but substantially integrates their own aesthetic judgment and personalized choices through specific, detailed parameter settings, continuous interactive feedback, and multiple rounds of filtering, arrangement, and revision of the generated content, then the intellectual input reflected in this process is sufficient to support a finding of originality. The resulting musical

content can be defined as a work, and its related copyright can be owned by that user. Conversely, if such substantive creative intervention is lacking, it is difficult to obtain copyright protection.

To address the difficulty in proving the "access" requirement for infringement, a reasonable allocation of the burden of proof can be explored. [13] When the rights holder can preliminarily prove that their work has high notoriety and the AI-generated content is highly substantially similar to it, and given that training data and algorithm models are usually controlled by developers and are non-public, consideration can be given to shifting the burden of proving "no access" or "legitimate use" to the provider of the AI service. This adjustment aligns with the principle that risk control should correspond to benefit enjoyment, helps alleviate the proof dilemma for rights holders, and incentivizes the industry to establish more standardized and transparent data use mechanisms.

Rules regarding rights ownership need to be clarified to adapt to changes in creative modes. The current copyright law framework, based on natural or legal persons as creative subjects, shows a lag in dealing with AI-generated content involving multiple participants. It is recommended to establish the core principle of "substantive contribution and leading role" and, through judicial interpretation or guiding cases, assign copyright to the subject that plays a decisive creative coordinating and resource-investing role throughout the content generation chain. Simultaneously, a labeling and disclosure system for AI-generated content should be established, mandating the labeling of its AI-generated nature to protect the public right to know and market order.

6 Conclusion

Style imitation in AI-generated music challenges copyright law's distinction between unprotected ideas and protectable expressions. The training stage risks infringing reproduction rights via data use, while generation may infringe adaptation rights if outputs are substantially similar to specific works; imitations causing public confusion may also constitute unfair competition. Current law faces dilemmas in assessing originality in human-AI collaboration, proving "access," and allocating rights among multiple contributors. Effective regulation should balance interests by refining copyright rules through legal interpretation, employing anti-unfair competition law as a supplement, and combining technical and industry governance to protect creators while fostering innovation.

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