

The Balance of Copyright Conflicts in AI Music Creation with Safeguarding the Value of Human Artistic Creation

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Abstract. This study focuses on many problems and social effects caused by artificial intelligence music creation technology to the current copyright protection system. Although this technology is very innovative, it mainly relies on a large number of authorized data sets to build a model, which leads to a series of thorny issues such as legal ambiguity and ethical disputes. It is especially obvious that the boundary between "tribute" behavior and infringement is difficult to distinguish accurately. In the case of global crisis such as COVID-19 epidemic, economic pressure has made these contradictions more acute, and people have paid more attention to the shrinking job market and uneven income distribution. The author adopts the mixed method, combines the theoretical explanation of copyright law and the study of ethical issues, and makes a comparative analysis by using the latest judicial precedents. The empirical research on existing relevant laws and regulations shows that there are defects and loopholes in China's existing copyright legal system when faced with the unauthorized use of training data, the proliferation of artificial intelligence works and the failure to protect the rights and interests of creators. Although artificial intelligence can imitate the technical level of various artistic creations, it cannot fully display the emotional depth, cultural background and unique innovation of human artists. The research concludes that we need to rebuild the music copyright rules. This requires new laws on artificial intelligence, economic protection for creators, and moral principles that regard artificial intelligence as helping rather than replacing human creativity.

Keywords: AI-Generated Music, Copyright Law, Human Artistic Value, Intellectual Property

1. Introduction

Will artificial intelligence replace human artistic creation in the future? With the further development and research on advanced technology, AI models have been gradually introduced to society, although the benefits brought by artificial intelligence are non-negligible, a series of problems also come with it. Training models on a large database of existing songs is known as an AI music model. However, in a number of countries, the use of recordings, which are protected by copyright as training materials, remains unclear regarding their legality. With the rise of streaming platforms, AI-generated music, and economic downturns, such as the economic impacts affected by

global events like the COVID-19 pandemic and continuous recession has led the overall situation into a more serious level. For example, one of the results of COVID-19 is the cause of loss of around 375,800 jobs in copyright-related industries between February and April 2020, representing an 11.5% decline, while pirated music causes annual losses of \$2.7 billion in earnings and 71,060 jobs constantly in the U.S. alone. And the complexity is rising sharply by the occurrence of AI, as efficient generative tools based on huge datasets of copyrighted music, it is threatening the value of human artistic creations, with statistics estimating that 24% of music revenues could be at risk by 2028 due to AI replacement. If songs created by AI "in the style of" any artist, is that a tribute or an infringement? It is difficult enough to figure out whether in the aspects of laws or ethics. AI opens up exciting possibilities in music creation. However, it relies on existing materials. There are also legal and ethical challenges. Because of this, AI cannot fully replace human creativity or diminish its value.

2. Research methodology

This study aims to find a balance between copyright problems in AI music creation and the need to protect human artistic value. It uses a mixed-methods design, bringing together both qualitative and quantitative research. This makes it possible to look deeply into copyright systems and their real-world effects on the music industry.

2.1. Qualitative research methods

Based on an initial review of music intellectual property (including copyright, neighboring rights, and performance rights), this study does a detailed analysis of academic papers, legal documents, and industry reports. The review focuses on three main areas. First, it examines copyright laws from different countries related to AI-generated content, such as the U.S. Copyright Act and EU Copyright Directive, paying special attention to unclear areas about using copyrighted music to train AI. Second, it explores ethical debates about AI "style imitation" and the difference between "tribute" and "infringement." Third, it includes case studies of copyright disputes between AI music platforms and human artists.

The information was collected following PRISMA guidelines, using databases like JSTOR and Westlaw, and industry sources like IFPI and RIAA. The main goal is to build a framework for understanding copyright issues in AI music and to find gaps in current research.

2.2. Quantitative research methods

This study takes a specific case as a sample, and establishes a research framework containing three key variables. The first variable focuses on the classification attributes of the works involved, and two main categories, music creation and sound recordings, are taken into consideration. The second variable focuses on the analysis of the legal provisions followed by judicial or administrative judgments and their reasoning logic; The third variable comprehensively evaluates the actual impact of typical cases on the ecology of artificial intelligence music industry and the working groups.

By comparing similarities and differences across cases, the study summarizes the current judicial and regulatory trends in the field of AI music copyright. Furthermore, the findings derived from this comparative analysis provide empirical support for the development of solutions that balance the protection of copyright with the preservation of human artistic value.

3. Literature review

3.1. Types of intellectual property involved in music production

There are several types of intellectual property involved in the process of producing music. First of all, music copyright is the core intellectual property in music production, which mainly protects the music itself, such as the melody, harmony, rhythm, and so on. It usually contains two sections: one is a musical work copyright that protects the lyrics, melody, and the score, as well as the intangible music idea and structure. And it includes the rights of reproduction, distribution, performance, broadcasting, online transmission, adaptation, like the re-arrangement of any pieces, and lyric translation [1]. The other is a song recording copyright that protects the recording of a song performance, also known as a master tape; it also protects the labour and investment instead of the work itself. Its exclusive rights include reproduction rights, which encompass copying CDs or digital files, distribution rights, rental rights, and dissemination rights on information networks [2]. Followed by that, the neighboring right is another key part that protects creative contributions achieved by those who disseminate and help to realize the work, rather than the creation of the work itself. Although it is closely related to copyright, it still exists independently. And the components of neighboring rights are performers' rights and broadcasting organizations' rights. The former ensures the performers (including singer, musician, conductor) identities and images are not to be distorted and permits others to live broadcast, take audio and video recordings, reproduce and publish the performance audio and video, also post the performance on the information network [3]. The latter protects the rights of broadcasting organizations to the signals of their broadcast programs. Then it is the performance right, a specific right arising from copyright and neighboring rights, rather than an independent category of property rights. Due to its importance, it has been discussed separately. It consists of the rights to perform in public, including live performance(concert), mechanical performance(bars & shopping malls), the permissions and royalties are obtained by collective management organizations like MCSC, ASCPA, and so on, then distributed to composers, publishers, and recording copyright holders [4,5]. Penultimately, the mechanical rights involved refer to the entitlement that reproduce and publish musical works onto recording media such as CDs, vinyl records, digital downloads, and interactive streaming. When anyone wants to reproduce and distribute a recording of a copyrighted piece, also called a cover version, they have to obtain the mechanical rights permission from the rightsholders and pay the royalties [6,7]. Last but not least are the synchronization rights, which consist of the rights of combining musical works and the visual media. For example, the films, TV series, advertisements, video games, and online videos. Sometimes, the application for a master use license is also needed [8,9].

3.2. Issues encountered by the general public when using artificial intelligence to create music

From the aspect of technical, most AI-music creation platforms such as Suno and Udio cannot generate MIDI multitrack files, therefore the details like notes, timbres, and rhythms cannot achieve refinement, and hard to satisfy the needs, which is the scene requirements for precise matching of emotions and visuals of film and television scoring [10]. Legally, the widespread use of unauthorised AI-cloned artist voices is getting more and more common: there are some videos used Stefanie Sun's vocal timbre to make cover versions of songs, and the view count is over one million in some instances. However, only few creators obtained the authorization from the original artists, which triggers 'identity theft in creation' [11].

3.3. Reasons for conflict between AI-generated music and human artistry

Firstly, due to the leakage of lived experience, there is no emotional depth in AI-generated music, result in the disconnect in emotional expression. For instance, Suno's generated Chinese folk music fails to convey nostalgia through nuanced pipa dynamics, whereas human composers would deliberately adjust details to express specific sentiments [10]. Then, 80 percent of pop songs created by Suno follow a specific structure that is verse-chorus-verse. This shows the lack of innovation of AI, whereas human creators would like to explore distinctive forms all the time [12]. These disparities prevent AI from replicating art's 'humanistic value,' thereby creating conflict with human creation.

4. Discussion

4.1. Can AI replace human in the music industry

AI demonstrates the capability to generate music at a rapid pace; however, it exhibits inherent limitations, including the lack of emotional depth, cultural nuance, and a genuine creative process. Consequently, humans remain irreplaceable in the music industry, particularly in upholding the core value of artistry. While AI serves as a valuable tool to enhance music production--for instance, through auto-composition functionalities-it simultaneously exerts adverse effects on employment within the industry, primarily displacing jobs in background roles such as basic production assistance. Despite these impacts, the full replacement of humans by AI in the music industry is deemed unlikely in the near term. A concrete example illustrates this dynamic: AI may be capable of creating pop tracks that meet basic musical structures, but critical elements of the music industry, such as live performances that require real-time interaction with audiences and storytelling that conveys human involvement. Existing studies further support the conclusion that AI will not fully replace musicians. This is largely because AI systems are trained on pre-existing musical outputs rather than the underlying creative processes that define human musical expression. That said, AI does pose competitive pressures in specific music genres, most notably stock music. Statistics indicate there are already 170 million AI-generated tracks in circulation, a phenomenon that has begun to dilute royalty revenues for human creators in this segment.

4.2. What are the impacts of economic downturns on music copyright profits

Counter to intuitive assumptions about the impact of economic downturns, the recorded music industry demonstrated resilience in 2020, with global revenues growing by 7.4% to reach \$21.6 billion [13]. However the broader ecosystem of copyright-reliant industries within the music sector faced severe disruptions during the same period, primarily due to COVID-19 pandemic. Between February and April 2020, these industries experienced an 11.5% decline in employment, translating to approximately 374,800 job losses. The sound recording sector, a core component of copyright-reliant industries, was hit particularly hard, with an 11% drop in employment and a 23% decline in revenue. Nevertheless, a recovery trajectory was observed, and by September 2021, these metrics had returned to pre-pandemic level [14]. A key challenge associated with economic downturns is the potential surge in music piracy, though recent data lacks precise confirmation of the often-cited 20-30% increase in infringement rates during such periods. Despite this data gap there is a well-documented correlation between economic pressures and higher piracy--for example, research has identified positive links between the price of physical formats like CDs and the prevalence of piracy

[15,16]. Globally, music piracy has inflicted sustained losses on the industry, with declines in physical sales (from 37 billion in 1999 to 25 billion in 2007) partially attributed to piracy activities amid recessions, a trend that was further exacerbated during the post-1999 shift to digital music distribution. Beyond piracy, economic downturn impact music copyright profits through two additional channels: reduced consumer spending on licensed music products and services, and widening gaps in copyright protection. Collectively, these factors result in significant financial losses, with estimates suggesting a global impacts of 21.7 billion in losses for the music industry and 375,800 job cuts, while ongoing copyright infringement causes an annual hit of 14.2 billion, with 46.3% of potential revenue lost to unlicensed use.

4.3. How do current frameworks fail in addressing AI disputes

Current music copyright frameworks are structured around the requirement of human authorship, a foundational principle that excludes pure AI-generated works from eligibility for copyright protection. This exclusion creates a significant gap in the legal landscape by not providing clear guidelines for resolving disputes related to copyright infringement in AI training data, particularly in cases where AI systems are trained on copyrighted musical works without authorization. The shortcomings of existing frameworks extend beyond this issue and encompass three main areas: market oversaturation with AI-generated content, which diminishes the value of original human-created works by increasing supply and reducing differentiation; the lack of mechanisms to ensure fair compensation for human creators whose works are utilized in AI training; and inherent biases against AI in legal judgments, which may result in inconsistent rulings that fail to balance innovation with copyright protection. Empirical evidence of these failures is evident in the legal sphere, with over 30 lawsuits filed in the United States alone highlighting direct claims of AI-related copyright infringement [17,18]. Additional ambiguities persist, such as the legal status of AI prompts—current standards dictate that prompts alone do not qualify for copyright protection—and there is no guarantee that expanding existing frameworks will adequately address the issue of fair pay for creators affected by AI [19]. These gaps collectively render current copyright systems ill-equipped to manage the complexities of AI-related disputes in the music industry.

4.4. How can music copyright frameworks be reconstructed

In order to shape the music copyright protection system integrating artificial intelligence technology, it is necessary to formulate a comprehensive strategic plan, which includes complete laws and regulations, strengthening the protection of creators' rights and interests, and forming a strict ethical supervision mechanism. The "pre-licensing" model can be regarded as the first step, so that the original author can be authorized and participate in the decision-making during the training of the work; Moreover, it is necessary to set up a royalty distribution fund to ensure that the benefits from AI-generated content are collected in proportion to those who really contribute. Special support policies are issued for small independent artists to reduce their income pressure and stimulate their creative enthusiasm, establish a clear code of conduct, and attach importance to the significance of AI tools to assist rather than replace human creativity. The purpose of this approach is to achieve three goals: maximize the innovative potential of art, promote the fair and reasonable dispersion of interests, and promote the establishment of an international collaborative governance framework.

The existing research shows that the international related research has made substantial progress. The European Union's Artificial Intelligence Act and the relevant policies of the United States all take the establishment of AI's copyright protection mechanism as the starting point, and establish an

ethical regulation system. The research of the Innovation, Science and Economic Development Department of Canada (ISED) and related departments also put forward that we should consider relevant social risk factors while protecting the rights and interests of creators. In the future, we should advocate the concept of multi-party collaborative governance and form a fair, open and inclusive system.

5. Conclusion

This study focuses on the complex relationship between artificial intelligence music creation and traditional human works in copyright. This technology contains obvious potential for technological innovation and promotes a breakthrough in artistic expression, but the resulting legal, economic and ethical problems have exceeded the scope of application of existing copyright laws and regulations.

This study shows that artificial intelligence can't make works emotional, culturally sensitive or artistic-these are all conveyed by human creativity in works. However, because artificial intelligence can use copyrighted materials for teaching and can generate a large number of new works (usually without any permission), it poses a very serious threat to the artist's economic scope and the integrity of his works. With the increasing content of artificial intelligence production, and all kinds of confusion around copyright procedures and compensation issues, some weaknesses that have existed in economic difficulties have been further strengthened.

In the face of cultural inheritance and scientific and technological innovation, it is urgent to comprehensively improve the existing copyright legal system. In this case, it is necessary to put forward several major measures: first, to build a legislative framework specifically for the field of artificial intelligence, and to focus on improving the relevant data acquisition authorization mechanism and its benefit distribution rules; Secondly, it is necessary to build different levels of social security framework to support those creators with poor economic conditions to realize their long-term self-development path; Finally, some technical application standards including ethical dimensions should be formulated to ensure that intelligent technology can really "bless" rather than replace the core value of the original spirit. Government agencies, industry elites and artists' groups should work together to complete such a forward-looking and fair strategic blueprint drawing task, and then turn scientific and technological achievements into cultural welfare resources that benefit all mankind.

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