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# AI-Generated Music: Challenges in Copyright Protection

- Kiran Sharma<sup>1</sup>

## Abstract

*Modern AI is more sophisticated and has a far greater impact, as direct creation tools have replaced indirect improvements. For instance, Google's Magenta programme created a new "Nirvana" song by studying the lyrics, guitar riffs, chord progressions, and melodies of the group's earlier songs. Text instructions are given to ChatGPT, which then creates lyrics that are better than those IBM Watson created for Alex da Kid in 2016. AI-powered artists are available for leasing through Authentic Artists. A 300-question personality test is used by MUSICinYOU.ai to generate personalized compositions. Song starter from Bandlab is a "AI-powered idea generator" that can produce royalty-free music in a matter of seconds. Staccato, a start-up, bills itself as "an AI Lennon to your McCartney" because it can bounce song writing concepts off human writers. So many illustrations of AI-generated music will lead to many questions also specially with respect to copyright legal framework of these work. This article focuses on the ownership of AI-generated work, the question of originality in such works and if protected, who will be held responsible in case of any infringement?*

Keywords: *Artificial Intelligence (AI), Music, Copyright*

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## Introduction

One needs imagination and creativity to create any kind of art, whether it be a painting, a musical composition, a sculpture, or something else. It was once believed that only the human brain was capable of creating and imagining art. With the expansion of artificial intelligence (AI) technologies, it has become clear that robots may also produce art, a process known as generative art. An autonomous system like AI may create pictures, tunes, and other kinds of art depending on inputs or prompts by applying deep learning algorithms<sup>2</sup>. The earliest examples of AI in music date from the middle of the 20th century. Alan Turing, a pioneer in computing and a codebreaker, built a straightforward musical instrument in 1951. Since then, musicians have incorporated technology

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<sup>2</sup> Kaushik Pal, 'How Can an AI Model Create Music?' (*Technopedia*, 28 April 2023) <<https://www.techopedia.com/how-can-an-ai-model-create-music>> accessed on 19 May 2023.

in many ways into their works. For instance, David Bowie employed a digital lyric randomizer for pop songs in the 1990s. The first-ever AI-composed album, “Hello, World,” was released just a few years ago, in 2018, and the music industry welcomed its success.<sup>3</sup>

## AI-Generated Music

The first step in using AI to create music is to train the machine learning algorithm on a dataset of already-existing music, which may include a sizable number of songs in a specific genre or style. The algorithm looks at the chords, melodies, beats, rhythms, and instrumentation in the music, as well as other patterns and structures, and then uses this knowledge to produce new music with a similar structure and style. However, tracking online copyrights or intellectual property in the type of data that is dissected and then reassembled by computers to produce new works is a complex and challenging logistical and legal issue. This AI has several accessibility and creative benefits.<sup>4</sup> Some of the best AI-generated music platforms available are AIVA, Amper Music, Google’s Magenta, OpenAI’s MuseNet, Amadeus Code, Jukedeck, etc.

In response to commands, generative AI can produce text, sound recordings, images, movies, and other types of media. Due to recent news and controversy surrounding the app, ChatGPT, even individuals who are new to the sector are likely to have heard of it.<sup>5</sup> ChatGPT, which processes user questions or prompts in natural language and then generates a narrative response using the Large Language concept. ChatGPT has versatile uses, including writing short narratives on a wide range of topics, creating intriguing subject lines for marketing emails, plan future travel,

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<sup>3</sup>Sankshp Mahendra, ‘Can Music Created by AI be Copyrighted?’ (*AIPplus*, 26 March 2023) <<https://www.aipplusinfo.com/blog/can-music-created-by-ai-be-copyrighted/>> accessed on 18 May 2023.

<sup>4</sup>Jacqueline Schneider, ‘How The Latest AI-Generated Copyright Loss Could Add Friction To Music And Technology’s Complicated Relationship?’ (*Forbes*, 28 Feb 2023) <<https://www.forbes.com/sites/jacquelineschneider/2023/02/28/how-latest-ai-generated-copyright-loss-could-add-friction-to-music-and-technologys-complicated--relationship/>> accessed on 19 May 2023.

<sup>5</sup> Mahendra (n 3).

develop code, or even draught business documents. Large Language concepts are typically used by ChatGPT to “fill in the blanks” for a prompt by searching through a vast quantity of data to anticipate responses<sup>6</sup>. The ability of AI-based music generators to produce music is increasing, but determining who owns the copyright to their creations is becoming more difficult. The legal issues, however, do not end here. Copyrighted music must be used while training AI programmes. Does that violate the rights of an artist? Here’s a closer look at how music created by AI is governed by law<sup>7</sup>.

### Can AI-generated music be protected under copyright?

The Copyright Act, 1957 protects “*original literary, dramatic, musical and artistic works...*”. As per the Act, the work produced should be original in order to get protection under copyright. So, the question here now is whether the work generated by AI is original or not. The term original is not defined in the Copyright Act but interpreted from judgments. It could be said that the work is deemed to be original if it is not copied from anywhere else and has come from the mind of the author. In the case of *Walter v. Lane*<sup>8</sup>, a real address was replicated verbatim in a newspaper article. The reporter’s expertise and exertion in writing down and recording the speech were taken into account by the court in determining that the work was copyrightable. According to the court, it does not matter if a work is intelligent or foolish, correct or wrong, or whether it has literary value or not<sup>9</sup>. The court determined that the term “*original*” must be understood to refer to the originality of speech in the case of *University of London Press Ltd. v. University Tutorial Press Ltd.*<sup>10</sup>. Even though a fresh thought must be presented, revolutionary and ground-breaking

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<sup>6</sup> Mark T. Goracke, ‘The Summer of “Deep Drakes”: How Generative AI Is Creating New Music and Copyright Issues’ (*Holland & Knight*, 2 May 2023) <<https://www.hklaw.com/en/insights/publications/2023/05/the-summer-of-deep-drakes-how-generative-ai-is-creating-new-music>> accessed on 19 May 2023.

<sup>7</sup> Mahendra (n 3).

<sup>8</sup> [1900] A.C. 539.

<sup>9</sup> Anik, ‘Doctrine of Originality in Copyright’ (*Vidhikarya*, 22 March 2022) <<https://www.vidhikarya.com/legal-blog/doctrine-of-originality-in-copyright-works>> accessed on 20 May 2023.

<sup>10</sup> [1916] 2 Ch 601.

ideas are not necessary. For copyright protection to be applicable, the work must originate from the creator and exhibit originality.<sup>11</sup>

The Supreme Court of the U.S. stated in the case of *Feist Publications, Inc. v. Rural Telephone Service*<sup>12</sup> that the two requirements for originality, which are not unduly stringent, are that the work is independently generated by the author (as opposed to being plagiarised from previous works) and that it demonstrates at least a basic level of creativity. If a work was not explicitly copied from another, it still counts as an “*independent creation*” even if it was inadvertently identical to that other work. The “*creativity*” element sets an outrageously low bar that is easily surpassed. The only requirement is for the work to possess some form of innovation, regardless of how simple, or evident it may be<sup>13</sup>.

Interpreting these cases, it can be stated that work needs to be expressed by the author through himself and there should be his skill and labour involved in the generation of work rather than copying it from someone else. In short, the work should be an “independent creation” of the author with minimum creativity in it. Considering the case of AI, as established earlier, the AI is trained through the machine learning algorithm by already feeding the already existing music. Various chords, melodies, beats, rhythms, and instrumentation in the music are fed into the AI, which prepares it to generate new music of the same style and structure using its knowledge. So, in this situation can it be said that AI has used its skill and labour in generating the new music. Although the music expressed is learned by the AI itself by analysing the already fed data but the type of music is being fed by the programmer only and AI can only produce a such pattern of music which is being taught to it and no other. Also, it is not the “independent creation” of the AI because without the help of a programmer AI itself cannot generate music, at least

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<sup>11</sup> Mini, ‘Originality Under Copyright Law-Is There Any Definite Standard?’ (*LegalServicesIndia*) <<https://www.legalservicesindia.com/article/970/Originality-Under-Copyright-Law-Is-There-Any-Definite-Standard?.html>> accessed on 20 May 2023.

<sup>12</sup> *Feist Publications, Inc. v. Rural Telephone Service* [1991] 499 U.S. 340.

<sup>13</sup> ‘Originality in Copyright’ (*Copyright USLegal*) <<https://copyright.uslegal.com/originality-in-copyright/>> accessed on 20 May 2023.

not in today's world. Therefore, the music generated by AI cannot be considered original.

Apart from the originality, there is one more thing that is usually seen in the work of the authors and that is the personality of the authors. Whatever work is being created one can always find a glimpse of the author in their work. The Personhood Theory of IPRs, as put by notable intellectuals like Georg Hegel and Immanuel Kant, hold that while using labour to create anything, a person's personality is also infused by them into their creation. An "individual's personality growth is inherent" and as such, forms an essential component of creative works<sup>14</sup>. AI being a machine does not have a personality of its own.

A person is aware of a song's roots if they wrote it. Upon its delivery, the emotion is felt. They agonized over the lyrics, melodies, chord progressions, and style voicing to convey the feeling they were going for<sup>15</sup>. Why would someone let a machine take away their creativity and individuality?<sup>16</sup> Few researchers might believe that AI-generated music can be protected by giving the reasoning that AI is itself learning the process and the music ultimately generated is new and therefore is original. If, this logic is still considered then the next question that pop is who will be considered as the owner of the music generated?

### **If AI-generated music is protected, who owns it?**

The Copyright Act 1957 states that the composer is the author in relation to a musical work<sup>17</sup> and the "*composer*"<sup>18</sup>, means the person who composes the music. This Act explicitly addresses the authorship of

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<sup>14</sup> Ashwin, 'Theories of Intellectual Property Rights' (*Enhelion*, 27 Feb 2021) <[https://enhelion.com/blogs/2021/02/27/theories-of-intellectual-property-rights/#\\_ftn6](https://enhelion.com/blogs/2021/02/27/theories-of-intellectual-property-rights/#_ftn6)> accessed on 20 May 2023.

<sup>15</sup> Simon Taylor, 'AI Music Copyright: Do NOT Pay for Copyright Until You Have Read This' (*BPB*, 19 April 2023) <<https://bedroomproducersblog.com/2023/04/16/ai-music-copyright/>> accessed on 18 May 2023.

<sup>16</sup> Mahendra (n 3).

<sup>17</sup> Copyright Act 1957, S.2(d)(ii).

<sup>18</sup> Copyright Act 1957, S.2(ffa).

computer-generated works, stating that in the case of computer-generated musical works, the individual responsible for the creation of the work is recognized as the author<sup>19</sup>. The Act also defines the “musical work<sup>20</sup>” and states that a work consisting of music and includes any graphical notation of such composition, does not include any words or any action intended to be sung, spoken or performed with the music. Lastly, the Act states that the author of a work shall be the first owner of the copyright.<sup>21</sup> As the language of the Act states that the “*composer is the person.....*”. The person here is a legal or natural person and till now AI has not been recognized as a legal person. The law is very clear in the case where the work is computer-generated, then the programmer will be considered as the author. But if AI is considered which is different from computers and taken to be an entity having human intelligence and which can learn from itself then the question of ownership can come into the picture. There are two sets of opinions, one, is where the work generated by AI is considered original and coming directly from the AI then in such a scenario, AI may be considered as author/owner, and second, is where thousands of works are already fed into the AI by the programmer then the new work cannot be considered as new and therefore there is no question of ownership. In both scenarios, the programmer cannot be considered as the owner because of the simple reason that the work generated is not the programmer’s expression.

The U.S. Copyright Office has made it plain that a human, not a machine, must be the creator of any works produced using generative AI. The term “*author*”, which is used in both the Constitution and the Copyright Act, does not encompass non-human entities in its most fundamental sense<sup>22</sup>. The “*human author requirement*” does not exclude the copyright protection of works that contain parts that were partially produced by AI. The Copyright Office has said that it will take into account protecting works that include content created by or with the help of technology, essentially determining whether the work in question is

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<sup>19</sup> Copyright Act 1957, S.2(d)(vi).

<sup>20</sup> Copyright Act 1957, S.2(p).

<sup>21</sup> Copyright Act 1957, S.17.

<sup>22</sup> Goracke (n 6).

primarily the result of a human, with the computer or technology “*merely being an assisting instrument*”, or whether the traditional elements of authorship “*were actually conceived and executed not by man but by a machine.*”<sup>23</sup>

The introduction of AI in the arts, particularly music, has brought up basic issues with copyright law that are proving challenging to resolve. Stephen Thaler’s AI-generated image “*A Recent Entrance to Paradise*” is one current illustration from the realm of art. With the use of his own Creativity Machine algorithm, Thaler created the image in November 2018. In 2019, he requested that the copyright office recognise his ownership rights, but was rejected on the basis that there was no human authorship.<sup>24</sup> The current intellectual property and copyright laws only protect works that are produced by human intellectual labour, recorded in a physical medium, and depended on the “*creative powers of the human mind*”. This understanding of the creative process under copyright law raises the issue of what exactly qualifies as adequate human contribution or authorship criteria. Attorneys for Thaler contend that AI is capable of producing artistic work even without a conventional human creator.<sup>25</sup>

### **Who will be held liable for Infringement?**

According to Rob Heverly, a professor at Albany Law School who focuses on how technology and law interact. “*In order for there to be infringement, there has to be an author. So, if there isn’t an author, I don’t know that there can be infringement.*”<sup>26</sup> As already mentioned, the AI is fed with already existing work so that it can learn from the existing pattern and make new work on its own. Here only the controversial thing arises that the work which is fed into the AI is already a copyrighted work that is being used without the permission of the owner. Secondly, there is a possibility that the new work that is being generated by AI after learning from the existing

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<sup>23</sup> *Ibid.*

<sup>24</sup> Sanksshep Mahendra, ‘Can Music Created by AI be Copyrighted?’ (*AIPPlus*, 26 March 2023) <<https://www.aipplusinfo.com/blog/can-music-created-by-ai-be-copyrighted/>> accessed on 18 May 2023.

<sup>25</sup> *Ibid.*

<sup>26</sup> Ellen Glover, ‘AI-Generated Content and Copyright Law: What We Know’ (*Built in*, 18 April 2023) <<https://builtin.com/artificial-intelligence/ai-copyright>> accessed 17 May 2023

work seems like the work of a particular artist or might create something which is already there. Here the rights of the artist are being infringed. Moreover, in the case of music generators, the programmer takes as input lyrics, melodies, songs, and written compositions, all of which are already covered by copyright. The AI produces new materials from these sources, which has given rise to claims of copyright infringement.

The proprietors of AI music generators were recently forewarned by the Recording Industry Association of America that using copyrighted music for training purposes constituted copyright infringement and jeopardized the exclusive rights of copyright owners. The group claimed that without the appropriate degree of a license, AI apps copied music and made derivative works based on pre-existing compositions<sup>27</sup>.

A plaintiff must demonstrate actual infringement in order to prevail in court. That would entail proving that the AI application actually copied the music and that doing so was against the law in the case of AI music. If too much of an existing piece was duplicated and the resultant output was too similar, it would be illegal to use a copyrighted piece of music. It is a component of a wave of AI-produced music that is starting to spread over social media and streaming providers. And it's not going to stop anytime soon. However, when more AI songs become popular, they present a number of legal issues that will probably result in court cases that will establish how AI will interact with the music industry moving forward.<sup>28</sup>

By virtue of AI techniques, ordinary people can easily replicate a singer's or rapper's voice on a new or existing track by scraping the music of existing musicians. Rihanna covering Beyoncé's "*Cuff It*" is just one of the many AI-covers that have recently gone viral on Twitter and TikTok. Artists are starting to take notice. Rapper Ice Spice's AI cover of Drake's song "*Munch*" became viral online, and in response, Drake wrote on

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<sup>27</sup> Goracke (n 6).

<sup>28</sup> *Ibid*

Instagram, “*This is the final straw AI*”.<sup>29</sup> Duplicating a singer’s voice using the AI technique is also infringing their “right to publicity,” which safeguards celebrities’ likenesses. For instance, Bette Midler successfully sued Ford Motor Company in the late 1980s after they hired a vocalist who closely resembled her voice in an advertisement<sup>30</sup>.

The song “*Heart on My Sleeve*”, which purportedly features Drake and The Weeknd, has become popular online. The Weeknd and Drake were not actually in the song, though. Instead, the song serves as an example of the most recent, well-known, and possibly convincing use of generative AI. The Weeknd and Drake’s well-known voices were replicated using that technology.<sup>31</sup> Despite the fact that “*Heart on My Sleeve*” has hundreds of millions of views and plays on YouTube and Spotify, Universal Music Group, the record label for Drake and The Weeknd, promptly requested that it be taken off streaming platforms. This action revealed a widening gap between artists and record companies who own the copyright to their artists’ back catalogues and the advancing technology that enables the creation of new works. Concerns have been raised about how well copyright law will be able to effectively address the increasing influence of AI in the music industry, which is significantly shaping the creation and consumption of music.<sup>32</sup>

A new piece of music can be created (or assisted in creating) in a variety of ways using generative AI. The technique, for instance, may be applied to analyse or “*scrape*” millions of input musical points in order to create a brand-new song or, as explained in the case of “*Heart on My Sleeve*”, the technology can be utilised to listen to and analyse a variety of songs and other sound recordings to accurately recreate an artist’s voice, down

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<sup>29</sup> *Id.*

<sup>30</sup> J.D. Capelouto, ‘AI-generated music is going viral. But is it legal?’ *Semafor* (North America, 19 April 2023) <<https://www.semafor.com/article/04/18/2023/is-ai-generated-music-legal>> accessed on 19 May 2023.

<sup>31</sup> Ellen Glover, ‘AI-Generated Content and Copyright Law: What We Know’ (*Built in*, 18 April 2023) <<https://builtin.com/artificial-intelligence/ai-copyright>> accessed 17 May 2023

<sup>32</sup> Goracke (n 6).

<sup>33</sup> H. Drew Blackburn, ‘The music industry has an AI problem’ *Japan Times* (Japan, 11 May 2023) <<https://www.japantimes.co.jp/opinion/2023/05/11/commentary/world-commentary/ai-generated-music-forges/>> accessed on 19 May 2023.

to their distinctive vocal ties and styles, and then that voice can be incorporated into the new song<sup>33</sup>.

### **What about Music Streaming Platforms?**

AI-generated music is also available on music streaming platforms. This means the person who is actually taking the help of AI in generating the music is having commercial gains from that work. This will definitely infringe on the rights of the artist as the programmers are riding on their piggybacks. An illegal work cannot be removed from an online platform just because it was uploaded there; but they are required to do so upon request from the copyright owners. So, when these artists will get to know about this infringement and only upon their request such works can be taken down. Like the industry powerhouse, Universal Music Group has pushed Spotify and Apple Music to prohibit AI platforms from scraping the melodies and lyrics from the songs of their artists.

### **Conclusion**

Today, a lot of musicians and music producers work together using AI. They use technology to allow their compositions to develop rather than relying on computers to produce and arrange full songs. One illustration of that is Holly Herndon and her AI named “*Spawn*”.<sup>34</sup> These partnerships might be protected under existing copyright laws if a few amendments can be made. AI can work as a creative extension of the human employing it rather than the actual inventor. Such as the “*work of joint authorship*”<sup>35</sup> as defined by the Copyright Act of 1957, refers to a creation that emerges from the collaborative efforts of two or more authors. In such cases, the individual contributions of each author are indistinguishable from one another. If in this definition the other author can be made an entity other than a natural person then AI can be added as a joint author. The Copyright Act also talks about the concept of

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<sup>33</sup> Goracke (n 6).

<sup>34</sup> Mahendra (n 3).

<sup>35</sup> Copyright Act 1957, s 2(z).

adaptation. In the context of musical work, adaptation refers to any arrangement or transcription of the original work.<sup>36</sup> Can the arrangement made by the AI of the music be considered an adaptation? Questions concerning the distribution of rights to these productions and how they should be licensed and monetized need to be introspected. Copyright on work is all about the emotions, personality, heart, experience, and inspiration that a person feels before investing in the work out of all the intellectual property, copyright is the only one that cannot be done without human beings.

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<sup>36</sup> Copyright Act 1957, s 2(a)(vi).