
AI-GENERATED ARTWORKS AND COPYRIGHT INFRINGEMENT: EXPLORING THE LEGAL CONUNDRUM UNDER INDIAN LAW AI-GENERATED ARTWORKS AND COPYRIGHT INFRINGEMENT

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Introduction:

AI (Artificial Intelligence) has revolutionized the majority of sectors including art and culture¹, where AI has been able to produce new compositions that nearly equal human creativity². The emergence of AI in the literature, painting, music, and other forms of expression has led to the debate on the copyright of these works, and if so, who the rights are to. Human authorship is not the only reason traditional copyright, which is based on human creativity and originality, should be questioned. This legal problem is not only in India, but also the whole world that the legislatures and courts are facing the problem of how to fit AI-born content into the already established legal frameworks.

The Indian copyright law laid down in the Copyright Act, 1957³ in silence. The Act, with its emphasis on human authors and originality, poses several problems when it comes to AI-generated works. The development of AI technology is a challenge for India's legal system to solve the shortcomings in its copyright law which prescribe how to own and protect works created by machines. This paper analyzes these obstacles with the focus on three main aspects: copyrightability of AI-generated works, authorship and ownership issues, and copyright infringement

AI-generated outputs. This paper also analyzes the concept of fair dealing under Indian law and its implications for the use of copyrighted material in training AI systems.

¹ Stuart J. Russell & Peter Norvig, *Artificial Intelligence: A Modern*

² Ee M. Tim Jones, *A Beginner's Guide To Artificial Intelligence, Machine Learning, And Cognitive Computing*, Ibm Developerworks (Oct. 12, 2018), <https://Developer.Ibm.Com/Articles/Cc-Beginner-Guide-Machine-Learning-Ai-Cognitive/#Machine-Leaming>. Machine Learning Has Roots In Statistics And Mathematical Optimization, Wherein Computers "Learn" In Order To Predict, Analyze, And Mine Data. Id.

³ The Indian Copyright Act, 1957.

I. AI, Machine Learning, and Creative Expression:

II. Understanding AI and Machine Learning in the Creative Process:

Artificial Intelligence, specifically through advancements in machine learning (ML) and neural networks AI technology has gained an impressive ability to generate creative content ranging from visual art and music to literary works. In this regard, AI systems such as Generative Adversarial Networks (GANs)⁴ and Convolutional

Neural Networks (CNNs) are capable of learning from large datasets making them produce artworks that seem to be human creativity. These technologies operate through recognizing data patterns, and then utilizing algorithms to construct outputs that are alike to art made by humans.

India is just beginning to adopt AI in the creative sector, but the possibilities of the technology are vast. Indian artists, tech companies, and cultural organizations are finding more and more ways of working with AI to bring creative expression to new dimensions. However, the law is not matching up with this technological development. In contrast to traditional works that human authors create, AI-generated creations are produced through a kind of algorithmic learning process that does not even involve conscious or intentional human creativity. This leads to fundamental issues on the question of whether such works are "original" in the sense of Indian copyright law that has always been based on the concept of human authorship.

AI-made art, created by GANs, entails little human intervention in the creative process. The AI is trained to create new forms by using a dataset that often incorporates copyrighted works. These outputs may vary anywhere from abstract digital art to a perfect mimic of Raphael's styles of famous artists⁵. Even though AI can imitate human creativity, the Indian Copyright Act, 1957⁶, has no specific provisions that regulate the status of these kinds of works.

II. Copyrightability of AI-Generated Works Under Indian Law:

II.I. The Originality Requirement in Indian Copyright Law:

⁴ Alankrita Aggarwal, Mamta Mittal, Gopi Battineni, Generative Adversarial Network: An Overview of Theory and Applications.

⁵ Raphael, <https://en.wikipedia.org/w/index.php?title=Raphael&oldid=1244706916> (Last Visited Sept. 13, 2024).

⁶ Ibid.

Being original is one of the most important aspects of copyright protection. It is given in Section 13 of Indian Copyright Act, 1957⁷ that copyright is only given to original works, including especially literary, dramatic, musical, and artistic works. The courts of India have specifically established this principle of originality in the case of *Eastern Book Company v. D.B. Modak* (2008)⁸ where the court held that a work should contain a mix of skills, judgment, and creativity of the author. The Supreme Court of India in this case, stressed that originality is a requirement of a modicum of creativity, and that mere labor or expenditure of effort, without creativity, is not enough for copyright protection. The Court adopted the "modicum of creativity"⁹ standard, thus rejecting the "sweat of the brow" doctrine¹⁰, which grants copyright protection to works only because of the effort expended in their creation.

Conversely, the standard set forth by the AI-generated works is to present itself with big issues. AIs work by algorithms that analyze and check data to produce results, but these processes lack the conscious intent, creativity, or skill usually associated with human authorship. AI systems create the artworks – independently analyzing and processing the data – thus the person's input does not add subjectivity or creativity to the authoring. This leads to the application of the Modak's case standard in AI-generated works and, hence, questions whether such works are "original" and hence, copyright protection is applicable.

The Indian Copyright Act never mentioned the exclusion of AI-generated works but pure of human creativity makes it hard to claim that AI-generated works are original as it is interpreted in accordance with Indian law. In the absence of clear legislative or judicial guidance AI-generated works might be prevented from copyright protection on the grounds of originality criterion.

II.II. Global Approaches to Copyrightability:

While India has not yet taken any steps addressing the issue of copyrightability, various other countries have been proactive in this matter. The Copyright, Designs and Patents¹¹ Act, 1988 of the UK, stipulates that computer-generated works fall under its provisions and gives the

⁷ The Indian Copyright Act, 1957 §13.

⁸ *Eastern Book Company V. D.B. Modak*, (2008) 1 Scc 1

⁹ Sharma, S. (2022). Originality For Copyright Protection In Literary Works: After *Ebc V Db Modak*. *Journal Of Intellectual Property Rights (Jipr)*, 27(4), 266-276

¹⁰ Das, J. K. "Copyright Protection For Computer Softwares And Databases: From Sweat Of The Brow To Modicum Of Creativity." *Indian JI & Just.* 3 (2012): 57.

¹¹ Copyright, Designs, And Patents Act, 1988 (United Kingdom)

term "author" to the person who is in-charge of making all arrangements for the creation of the work. Such a position gives human designers or persons who commissioned the work the right to claim authorship for the AI system reducing the risk of not getting copyright protection for AI-made works. The U.S. adopted a more conservative route, as the U.S. Copyright Office holds that works composed by non-human authors, including AI systems, are not entitled to copyright protection.

The condition of the law regarding AI generation of works in India is such that it falls into a gray area. AI's more significant presence in creative sectors may lead Indian lawmakers to contemplate the introduction of U.K.-style regulations so that AI-generated works would be deserving of copyright protection under Indian law.

III. Authorship and Ownership in AI-Generated Works:

III.I. The Traditional Concept of Authorship in India:

Under Indian law copyright and ownership are determined by the authorship of a work. The Indian Copyright Act, 1957, defines in Section 2(d)¹² the author of a work to mean the person who creates the work. This definition assumes that human beings are the only ones who can create. It does not consider cases where machines, e.g., AI systems, can produce the work. Thus, AI-generated content is not covered by the current legal framework for authorship.

Authorship is a complex issue that takes on a different aspect when artworks created by AI are involved. The case of a traditional artwork where the human creator is the sole author and copyright holder is straightforward. The situation is more complex when we come to AI-generated art. Is it the programmer, the user of the AI system, or the entity that commissioned the work order should be the author? According to Indian law, machines or AI systems are not recognized as authors. There is no joint authorship provision between a machine and a human either.

III.II. Ownership of AI-Generated Works:

In India too, the uncertainty regarding AI-produced works is yet to be clearly defined. If works generated by AI are considered not to be original and are thus excluded from copyright

¹² The Indian Copyright Act, 1957 § 2(D)

protection, the said works may be deemed to belong to public domain, which is the case if no one possesses exclusive rights over them. Nevertheless, if work produced by AI is found to be original, the question of ownership will be pertinent. Ownership rights are not clearly defined by law with regard to AI-produced works, and thus it remains obscure if the copyright would be in the hands of the programmer of the AI, the organization that utilized the AI to create the work, or the individual or entity that commissioned the work.

In the UK, the CDPA, 1988¹³ resolves this issue by assigning authorship to the person who is responsible for making the arrangements necessary for the creation of a computer-generated work. In this way, the person or organization responsible for the creative process is able to keep the rights to the work. Indian law could gain from a similar provision, which would make the ownership of AI-generated works clear and allow the creators, developers, or users of AI systems to claim ownership of the resulting outputs.

IV. Copyright Infringement and AI-Generated Works in India:

IV.I. Copyright Infringement Arising from AI Training:

Systems of AI, especially machine learning are operating on huge datasets for training. Data sets can contain copyrighted material like photos, music, and text that are used to teach AI models to recognize patterns and create new outputs. The law in India on this declares that the use of such materials without authorizing the rightful copyright is an infringement. The reproduction of any copyrighted material without the copyright holder's permission as enshrined in Section 51 of the Indian Copyright Act is termed infringement¹⁴.

Airing copyrighted materials for AI model training is AI copyright infringement which is a big very huge problem. If an AI system generates new outputs using copyrighted works without the original owner's permission, the question arises whether such use is copyright infringement. The Indian Copyright Act does not refer to the use of copyrighted works in AI training, thus, it is still an unanswered question. Courts will have to decide whether the use of copyrighted works in the training of AI models is an infringement. The central issue here is to determine whether the use of copyrighted material in AI training can be interpreted as a kind

¹³ Copyright, Designs, And Patents Act, 1988 (United Kingdom).

¹⁴ The Indian Copyright Act, 1957 § 51.

of reproduction or adaptation of the work as per Section¹⁵ 14 of the Indian Copyright Act, 1957, which is the section that describes the exclusive rights of copyright holders.

IV.II. Intermediate Reproductions and Temporary Copies:

During the training of AI systems, the use of intermediary copies of copyrighted works is sometimes made. For example, when GAN or CNN processes input data¹⁶, the system temporarily saves and reproduces parts of the data to train its algorithms. These equivalent copies may appear to be, temporary, but they are very crucial for the machine learning process. Whether such temporary reproductions amount to infringement under India law is still an ambiguous matter.

Current Indian copyright law lacks specific provisions regarding ephemeral or temporary copies. As per Section 14¹⁷, copyright is conferred to the owner on the exclusive right of reproduction of the work in any material form. This, however, begs the question if the transient copies made by AI systems during the learning process fall under this provision. In understanding the problem of intermediate copies, the courts have already ruled in different jurisdictions, and the ruling is not the same in all cases regarding whether such reproductions can be considered "copies" for the purpose of infringement.

A U.S. landmark case *MAI Systems Corp. v. Peak Computer, Inc*¹⁸. held that loading software into a computer's RAM, even for a short amount of time, was creating a copy under copyright law. The Second Circuit's ruling in *Cartoon Network LP, LLLP v. CSC Holdings, Inc*¹⁹., was that the transient digital copies that existed just for 1.2 seconds didn't constitute "fixed" copies under U.S. copyright law. Indian courts haven't yet ruled on this issue, but they will need to adjudicate the matter regarding whether intermediate reproductions during AI training qualify as unauthorized copying under the Indian Copyright Act²⁰.

¹⁵ The Indian Copyright Act, 1957 § 14.

¹⁶ Zhong, H., Chang, J., Yang, Z., Wu, T., Mahawaga Arachchige, P. C., Pathmabandu, C., & Xue, M. (2023, April). Copyright Protection And Accountability Of Generative Ai: Attack, Watermarking And Attribution. In *Companion Proceedings Of The Acm Web Conference 2023* (Pp. 94-98).

¹⁷ Ibid.

¹⁸ *Mai Systems Corp. V. Peak Computer, Inc.*, 991 F.2d 511 (9th Cir. 1993).

¹⁹ *Cartoon Network Lp, Lllp V. Csc Holdings, Inc.*, 536 F.3d 121 (2d Cir. 2008).

²⁰ Ibid.

IV.III. Fair Dealing in AI-Generated Works:

The Indian Copyright Act describes some exceptions for copyright infringement under the principle of "fair dealing". Section 52²¹ lists the situations in which the use of copyrighted materials is allowed without the copyright holder's permission, according to the Indian Copyright Act. These include various types of uses for the purposes such as private study, research, criticism, review, and reporting current events. However, through these legal provisions, it is not clear whether the use of copyrighted materials for AI training purposes is fair dealing or vice versa.

In the jurisdictions like the U.S., the fair use doctrine has been used to justify the use of copyrighted works in AI training. E.g., in the *Authors Guild v. Google*²² the court ruled that Google's way of scanning books to make a searchable database is fair use as it is transforming the original works and is not competing in the same market. Copyrighted works are used to train the AI system thus an argument similar to this can be made for AI training where the works are not competing or reproducing the original.

Nevertheless, the term for "fair dealing" in India refers to a more specific area than the American term "fair use." Courts in India have basically followed the ruling of "fair dealing" in a strict way, thus, the use of the copyright material is allowed under the specific conditions only. For instance, in the case of *The Chancellor, Masters,*

and *Scholars of the University of Oxford v. Rameshwari Photocopy Services* (2016)²³, the High Court of Delhi ruled that photocopying a large part of copyrighted educational texts for educational purposes amounted to fair dealing. On the contrary, There is a question of whether the Indian courts would accept this idea as convincing for the use of the copyrighted works in training AI.

Due to the AI reproduction of works not being the original copyrighted materials but rather the non-distributed forms, the contention can be made that such AI training should be considered as fair dealing under Indian law. Nevertheless, such a matter remains open to question, thus, either legislation or judicial clarification would be necessary to ascertain the

²¹ The Indian Copyright Act, 1957 § 52.

²² *Authors Guild V. Google, Inc.*, No. 13-4829 (2d Cir. 2015)

²³ *The Chancellor, Masters, And Scholars Of The University Of Oxford V. Rameshwari Photocopy Services* (2016) 16 Drj (Sn) 678

application of the fair dealing doctrine to the AI generated works²⁴.

V. Global Comparisons and Lessons for India:

V.I United States:

In the United States, copyright law has evolved to address some of the complexities introduced by AI-generated works. However, U.S. courts have maintained a strict stance on the question of authorship, holding that only works created by human authors are eligible for copyright protection. The U.S. Copyright Office has issued guidance stating that works generated entirely by AI systems without human input are not entitled to copyright protection.

The fair use doctrine in the U.S., however, offers more flexibility in the context of AI-generated works. Courts have allowed the use of copyrighted materials for transformative purposes, such as in the Google Books case, where the court held that digitizing books for a searchable database was a fair use. This broad interpretation of fair use has paved the way for the use of copyrighted materials in training AI models, provided that the use does not harm the market for the original works. V.II. United Kingdom:

The United Kingdom is the first state that showed a more tolerant attitude towards AI-generated productions. The Copyright, Designs and Patents Act, 1988²⁵ first of all mentions that the author of such works is a person who made all the necessary arrangements for its creation. Thus, the legal vacuum corresponding to the AI-generated works is excluded, and the copyright is attributed to a human entity who has created the work for the AI to be equal to a person.

An example of the UK system can teach us a lot in India as it preserves AI copyright without the need to claim the generator of the AI. In this way, AI will be recognized as the key author by Indian law, while the issue of the person managing the software and owning the copyright will be resolved. V.III. Proposals for Indian Law:

India can draw valuable lessons from the approaches taken by other jurisdictions. To address

²⁴ U.C. Davis Law Review, Jessica L. Gillotte, Copyright Infringement In Ai-Generated Artworks, 53 U.C. Davis L. Rev. 2655 (2020)

²⁵ Copyright, Designs, And Patents Act, 1988 (United Kingdom)

the legal uncertainties surrounding AI-generated works, Indian copyright law could benefit from amendments that explicitly define the legal status of AI-generated works and the issue of authorship. These amendments could include:

- A. Expanding the Definition of Authorship: The law in India must give an entity like person or company is designing the AI system or the one who ordered the AI system to be the author of such AI-generated works. This would make it clear as to who owns the works produced by artificial intelligence and therefore, such works would not be left without protection.
- B. Clarifying the Scope of Fair Dealing: The fair dealing provisions under Section 52 of the Copyright Act ²⁶should be expanded to include the use of copyrighted materials, which are required to train AI systems. This would ensure legal certainty for developers and users of AI systems but, at the same time, it would not violate the rights of copyright holders.
- C. Addressing Intermediate Copies: Indian the law needs to explain whether intermediate copies or temporary copies generated during AI training are considered to be an infringement or not. This could be approached by taking a more flexible position, akin to the U.K. and U.S., which permits the use of copyrighted works in machine learning without treating every intermediate copy as an infringing reproduction.

VI. Recommendations for Reform in Indian Copyright Law:

To address the challenges posed by AI-generated works, Indian copyright law must evolve to account for the unique issues arising from the intersection of AI and creativity. The following reforms are recommended:

- A. Legal Recognition of AI-Generated Works: In India, law must be changed to support explicitly recognition of AI-made works as copyrightable. This might be done by adding to the current definition of "authorship" the inclusion of those people or organizations that are responsible for the production or operation of artificial intelligence systems that generate creative works. India can adopt a similar framework

²⁶ The Indian Copyright Act, 1957 § 52.

as the U.K., thus ensuring that AI-generated works get proper protection and clarifying the issue of ownership.

B. Expanding Fair Dealing Exceptions:

The scope of fair dealing under Indian law would be expanded to incorporate the use of copyrighted materials for AI training purposes. In this way, we could follow the lead of the rest of the world and create a legal framework through which developers can utilize copyrighted materials in AI training without infringing on the rights of copyright holders. Alongside this, safeguards need to be put in place to make sure that such use does not harm the market for the original works.

C. Clarification on Intermediate Copies: Indian courts or legislators should provide clarity on whether the intermediate copies created during the AI training process are an infringement. A neutral standpoint is essential to ensure that the AI systems can continue to develop and contribute to the world as well as protect the rights of the copyright holders. The clear directions will be of great help to the developers and users of AI systems in India who are looking for guidance.

Conclusion:

As AI continues to revolutionize the creative industries, it is imperative that Indian copyright law evolves to address the challenges posed by AI-generated works. The current legal framework, which is based on principles of human authorship and originality, is ill-equipped to handle the complexities introduced by machine-generated content. By drawing on global best practices and adopting targeted reforms, India can create a copyright regime that promotes innovation while ensuring that the rights of creators and copyright holders are respected.

Addressing the issues of authorship, ownership, and fair dealing in the context of AI-generated works will be crucial to fostering a legal environment that encourages both technological innovation and artistic creativity. With the right legal framework in place, India can lead the way in balancing the interests of human authors, AI developers, and the broader public in the age of artificial intelligence.