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Navigating the Complexities of Attribution in AI-Generated Works

- K. Prakasha Nikhila[1]

Abstract

The emergence of Artificial Intelligence (AI) and the fact that is is generating literary, artistic, and musical work is giving rise to issues concerning copyrightability, authorship and ownership of such work under Copyright Law. One of the most important issues is pertaining to the question of whether AI can be acknowledged as both the author and owner of the work. As per the Copyright Act, 1957 in relation to work which is computer generated, 'author' means the person who causes the work to be created. Thus, who should be considered to have caused work to be created when work is created by AI? Alternatively, can it be said that no person has caused the work to be created? This paper provides responses to the aforesaid issues within the framework of Indian Copyright Law and the justifications provided by copyright laws. It also briefly examines the stance taken in other jurisdictions like the US and UK. Furthermore, it presents potential resolutions to the matter of authorship and ownership concerning AI-generated work. These solutions encompass various approaches, such as the work becoming part of the public domain, seeking compulsory licenses for utilizing the work, acknowledging limited personhood for AI, considering joint authorship involving individuals, or establishing a sui-generis right for work created by AI.

Keywords: *Artificial Intelligence, Copyright, computer-generated work*

Introduction

Until recently, technology was viewed under copyright law as nothing more than a tool used by humans to produce art. In contrast to technology, people are seen as the creators of such works. For instance, when a photographer uses a camera to take a picture, it is the photographer who is regarded as the author of the picture instead of the camera. Artificial Intelligence (AI), however, functions independently, unlike technology like a camera. The underlying presumption that

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technology merely serves as a tool controlled by humans is challenged by AI's independent functioning.[2]

By functioning independently of human creativity, AI is producing works that, if produced solely by humans, would be protected by copyright. This is due to the fact that most of the work produced by AI and humans can be confused. Examples of this type of work produced by AI abound and include, among others, literary works like books and news stories, creative creations like paintings and portraits, and musical compositions. AI-produced instances of human-like labour raise significant issues in terms of copyright law. Can AI-produced art be regarded as original? Can AI be regarded as the work's author? Generally speaking, the original owner of a work under copyright law is also regarded to be the author of the work. Can AI be regarded as the proprietor of the work if it is assumed that it is the author? Alternately, if AI is not regarded as the creator or owner of the work, then who ought to be? Who should supply the data to the AI—the user, the programmer, or both? This study adds to the ongoing discussion by providing a thorough analysis of the subject matter from the standpoint of several types of AI. In addition to providing a critical analysis of the Copyright Act, 1957, this paper offers proposals for potential remedies under the Indian Copyright Law. Furthermore, it explores the matter of copyright ownership concerning both the AI programmer and user, considering viewpoints presented by copyright law.[3]

Artificial Intelligence (AI)

Devices enabled with AI carry out intelligent functions. If machines can engage in human-like activities like perception, discussion, and decision-making, requiring human intelligence, they can be said to be

[2] Avishek Chakraborty, 'Authorship of AI Generated Works under the Copyright Act, 1957: An Analytical Study' 8 NIRMA U. L.J. 37 (2019).
[3] Copyright Act 1957, s 2(d)(iv).

artificially intelligent[4]. AI is considered strong when it surpasses the boundaries of these functions through independent thought, whereas AI is classified categorised as weak if it only performs present functions through simulation. Artificial intelligence is classified into Artificial Narrow Intelligence when it is intelligent in a specific field but unable to do a variety of activities. Contrary to artificial narrow intelligence, artificial general intelligence is hypothetical but is capable of a wide range of tasks across various domains. Hypothetical super intelligent AI would outperform human intelligence in all areas. Today, applications of AI are seen in many different industries. AI is producing music, art, and literature. The production of journalistic content makes use of AI. AI is now producing poetry and books. Music is being made with the aid of AI. AI is also producing paintings and portraits.[5]

Copyrightability of work created by AI

Originality is one of the requirements for copyrightability. As a result, AI-generated content can be evaluated for originality to decide whether it is copyrighted. According to Section 13 of the Indian Copyright Act, *"original"* work in the domains of dramatic, musical, literary, and artistic works are protected by copyright. However, a definition for originality is not provided under the Indian Copyright Act. One might examine the various originality theories in various jurisdictions, including the UK, US, and Canada, to better understand uniqueness.[6] These jurisdictions have conditions such as *"sweat of the brow"*, *"creativity"*, *"modicum of creativity"* and *"independently created"*. The *"modicum of creativity"* criteria is thought to be higher than the *"sweat of the brow"* level, which is thought to be a low benchmark. Indian originality standards are balanced. Neither *"sweat of the brow"* nor *"creativity"* meet the Indian criterion. According to Indian law, a work is original if it demonstrates

[4] Paul Scharre, et al., 'What is Artificial Intelligence? What Every Policymaker Needs to Know' (*Center for a New American Security*, 19 June 2018) <https://www.cnas.org/publications/reports/artificial-intelligence-what-every-policymaker-needs-to-know> accessed 10 February, 2023.
[5] Rex Martinez, 'Artificial Intelligence: Distinguishing between Types & Definitions' (2019)19 NEV. L.J. 1015.
[6] *Ibid.*

"skill and judgement" and *"minimum degree of creativity"*. It is not necessary to be creative in the sense of novelty or originality. Additionally, the requirement cannot be met by simply providing manpower or capital[7].

Justifications for Copyright

- *Incentive Theory:* Incentive Theory advocates granting copyright to encourage the creation of works, does not demand that copyright be given to AI. Copyright incentives have no impact on AI's operation because it is not sentient and cannot function independently because it is externally programmed. Copyright protection may encourage AI programmers to create AI that creates art. In fact, failing to recognise copyright in favour of the AI programmer for the output it generates could potentially serve as a deterrent to the development of AI that produces work.[8]

- *Personality Theory:* Giving AI copyright exemptions is not required by the personality hypothesis, which defends the way a person's personality is reflected in a work. This is due to the fact that AI cannot be claimed to possess a personality that is comparable to a human personality, which was intended to be protected by the personality theory[9]. The programmer's personality cannot be asserted to be reflected AI's output to the extent that the programmer cannot be said to have contributed creatively to it and to the degree that AI operates like a black box and generates unforeseeable results. Thus, in accordance with the personality idea, the programmer does not require copyright. It would be necessary to confer copyright upon the user in accordance with the personality theory since the user's restricted ability to contribute creatively to the AI prevents output from being considered to reflect the user's personality.[10]

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[7] Stephan De Spiegeleire, Matthijs Maas and Tim Sweijs, 'Artificial Intelligence and the Future of Defense: Strategic Implications for Small – And Medium- Sized Force Providers' (2017) HCSS.
[8] Narayani Anand, 'Artificial Intelligence as the New Creator - Changing Dimensions in Copyright Law' (2019) 6 CMET 103.
[9] Robert Yu, 'The Machine Author: What Level of Copyright Protection is Appropriate for Fully Independent Computer-Generated Works' (2017) 165 U. PA. L. REV. 1245.
[10] *Ibid.*

- *Utilitarian Theory:* More artistic work should be produced and made available to the public in light of utilitarianism. As a result, when more work is made available to the public thanks to copyright recognition in AI output, everyone wins. So, it is made that copyright should be issued in accordance with this theory.[11]

- *Moral Rights:* As per established legal and moral principles, AI cannot be attributed moral rights. It would be absurd to establish the moral rights in AI since it cannot exercise rights like the *"right to integrity"* or the *"right to paternity"* [12] because AI is not sentient and is unaware as to how the output generated by it would be utilised once it is made. Furthermore, since it cannot be argued that the AI-generated output is the result of the programmer or user, it would be inappropriate to acknowledge AI output through *"right to attribution"*.

Originality of work created by AI

Not Copying from other work

The phrase *"not copied from other work"* is one of the fundamental criteria for a work to be regarded as original work. Can we say that AI produces its own work without duplicating anything else? The common adage in this regard is that *"there is nothing new under the sun"*. Everything is built on a foundation. Humans draw on earlier work when producing fresh stuff. Thus, it cannot be claimed that a human-created work has been plagiarised in violation of copyright laws. It is important to distinguish between simple plagiarism and utilising previous work when producing new content. Although AI-generated work draws on earlier work, it cannot be stated that the AI simply copied it. Similar to humans who cannot completely detach themselves from previous work, artificial intelligence also relies on labour to generate output. In order to produce work, AI uses data that is fed into it and processed by sophisticated

[11] Report (n 37).
[12] Margot E. Kaminski, 'Authorship, Disrupted: AI Authors in Copyright and First Amendment Law' (2017) 51 U.C.D. L. REV. 589.

algorithms[13]. The originality of AI-generated work is determined by the absence of any copied content from the prior existing works.

Minimum degree of creativity

Can the *"minimum degree of creativity"* requirement be claimed to be met by the work produced by AI? It has been suggested in an essay that there are two methods to evaluate the creativity of a work: by focusing solely on the finished product or by examining the process of production.[14] It is possible to determine whether a piece of work has a *"minimum degree of creativity"* by examining the finished product. It must be judged subjectively by considering the creative process.

The late Marvin Minsky, the pioneer of AI, once claimed that a person is nothing more than a meat machine. In this way, human thought might be viewed as computational. If the processing of human thought could be compared to that of artificial intelligence (AI), then it might be claimed that human thought is computational[15]. The art produced by AI must adhere to the arbitrary standards of creativity. On the other hand, if creativity is considered to be a trait that is unique to humans, AI would not meet the arbitrary requirements of creativity. Nonetheless, if AI is considered to possess creativity, it can be asserted that the requirements of creativity would be satisfied.[16] In this regard, it is necessary to differentiate between machine learning and other variants of AI that rely on algorithms constructed from pre-existing templates. Even though the latter may not be creative, machine learning that develops the capacity for independent judgement might be. Work produced by AI would be innovative if creativity were evaluated using objective standards. Using subjective standards to evaluate creativity will result in a range of results

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[13] *Ibid.*

[14] Anna Shtefan, 'Creativity and artificial intelligence: a view from the perspective of copyright', 16 JIPLP 7 (2021).

[15] *Ibid.*

[16] Alston Asquith, 'Artificial Intelligence and Copyright Law: Who (or What) Owns What?' (*Alston Asquith*, 18 September 2018), <https://www.alstonasquith.com/artificial-intelligence-copyright-law/> accessed 30 April 2023.

based on the type of AI and the approach taken to the issue of whether AI is creative[17].

Various legal systems have varied definitions of originality. In U.S, a work is regarded as original if it was *"independently created"* and demonstrates *"a minimum degree of creativity"*. In U.K., a work is regarded as original if it demonstrates *"authorial intellectual creation"* or *"skill, labour, and judgement"*. The consideration of whether or not artificial intelligence-generated works are derivative works and whether such works exhibit a *"minimum degree of creativity"* would still hold true in these jurisdictions.

AI as Author

Inadequacy of Section 2(d)(vi)

According to Section 2(d)(vi) of the Copyright Act of 1957, *"author means in relation to any literary, dramatic, musical, or artistic work which is computer-generated, the person who causes the work to be created"*. The Copyright, Designs and Patents Act (CDPA), which is from the UK, has a similar clause that reads[18], *"in the case of a literary, dramatic, musical, or artistic work which is computer generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken"*. Additionally, the CDPA defines computer-generated work as *"generated by computer in circumstances such that there is no human author of the work"*.[19]

Since there is *"no human author of the work"* when work is produced by AI, it perfectly fits the CDPA definition of *"computer-generated work"*. The Indian Copyright Act, 1957 does not specify *"computer-generated work"*, in contrast to the CDPA, UK, which does. Additionally, the wording *"person who causes the work to be created"* in Section 2(d)(vi) of the Indian

[17] Dom Galeon & Kristin Houser, 'Google's AI Built Its Own AI That Outperforms Any Made by Humans' (*Science Alert*, 02 December 2017), <https://www.sciencealert.com/google-s-ai-built-it-s-own-ai-that-outperforms-any-made-by-humans> accessed 30 April 2023.
[18] Copyright, Designs and Patents Act, UK, S.9(1).
[19] Third Edition of the Compendium of U.S. Copyright Office Practices, 2017.

Copyright Act should be contrasted with the phrase *"person by whom the arrangements necessary for the creation of the work are undertaken"* in CDPA, UK[20].

While Section 2(d)(vi) of the Copyright Act, 1957 attempts to address the issue of authorship in works produced by AI, it falls short for two reasons. First of all, because AI operates autonomously, no one can be considered to have created the work to be made as per Section 2(d)(vi). The work is produced by AI rather than by humans. In addition, the condition of *"causing the creation of the work"* in India has a higher bar than required under UK law of *"making arrangements necessary for creating the work"*. Merely by providing the programming and data to the AI, the programmer, data provider, or user cannot be considered to have *"caused the creation of the work"*.[21]

Secondly, there may be instances where no human would have been responsible for producing the job since the AI produces its own AI that could further generate work. No individual can be considered to have *"caused the work to be created"* or *"undertaken the arrangements necessary for creation of the work"* in a scenario where an AI is generated by another AI for the sake of creating work. The Google Brain-created AI Auto ML is a prime example of an AI producing its own AI[22].

AI as Author under Section 2(d)(i) of Copyright Act, 1957

Reliance can be placed on Section 2(d)(i) of the Copyright Act, 1957, which says that the *"author means in relation to literary or dramatic work, the author of the work"*. The term *"author"* cannot be said to be limited in application to humans alone and AI may be covered under this definition.

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[20] *Ibid.*
[21] Victor M. Palace, 'What If Artificial Intelligence Wrote This: Artificial Intelligence and Copyright Law' (2019) 71 FLA. L. REV. 217.
[22] *Ibid.*

AI as Author in Other Jurisdictions

The *"person who creates the work"* is what is meant by the term *"author"* in the UK.[23] Similarly, *"author"* in the US is defined as *"someone who actually creates the work"* in the case of Community for *Creative Non-Violence v. Reid*[24]. According to this interpretation, even AI might be considered an *"author"* because it is the entity that independently develops the work. However, US law forbids AI from being a *"author"*[25] and has a *"human authorship requirement"* that does not protect *"works produced by a machine or mere mechanical process that operates randomly or automatically without any creative input or intervention from a human author"*.[26]

Further, the US cases of *Burrow-Giles Lithographic Co. v. Sarony*[27] and *Trade-Mark Cases*[28] define *"author"* using terms that indicate that only humans can be the author. Furthermore, there exists the well-known case in the US known as the *Monkey Selfie Case*[29], which centred around the issue of whether a monkey could be recognized as the *"author"* of a photograph. Due to the monkey's lack of legal standing, the court dismissed its copyright claim. AI lacks the legal standing necessary to be regarded as *"author"* in the US. Along with the clear *"human authorship requirement"* and concerns about AI's legal standing, there are issues with adequate enforcement of copyright and the remedies afforded by copyright law that cast doubt on the idea that AI should be deemed the author. Lack of legal personality is another issue that casts doubt on AI's claim to authorship. To recognise AI authorship in the US, the *"human authorship"* as the pre-requisite needs to be eliminated.[30] However, unlike in the US, Indian law does not specifically call for human authorship.

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[23] Copyright, Designs and Patents Act, UK, S.9(1).
[24] *Community for Creative Non-Violence v. Reid* (1989) 490 U.S. 730.
[25] Patrick Zurth, 'Artificial Creativity? A Case against Copyright Protection for AI-Generated Works' (2020) 25 UCLA J.L. & TECH.
[26] *Ibid.*
[27] *Burrow-Giles Lithographic Co. v. Sarony* (1884) 111 U.S. 53, 58.
[28] *Trade-Mark Cases* 100 U.S. 82, 94 (1879).
[29] *Naruto v. David Slater et al.* [888 F.3d 418 (9th Cir. 2018)].
[30] Wenqing Zhao, 'AI Art, Machine Authorship, and Copyright Laws' (2020) 12 AM. U. INTELL. PROP. BRIEF 1.

Entities other than AI as Author and Owner of work

Who should be awarded the authorship of such work if the AI is not its creator and owner? According to Section 2(d)(vi) of the Copyright Act of 1957, author means *"in relation to any literary, dramatic, musical, or artistic work which is computer-generated, the person who causes the work to be created"* According to this definition, the author is the one who initiates the creation of a piece of work.[31]

Programmer as Author

As stated *supra*, AI functions independently devoid of any creative input from humans. Only code and data are supplied by humans to the AI, which then generates output on its own. In a narrow point of view, the creation of work cannot be attributed to any individual since it is the AI that is an agent of creation. Therefore, it cannot be claimed that a human was the work's author[32]. On the other hand, it might be claimed that the programmer's creative contribution is necessary for the AI to be creative because otherwise, it would not be able to do so. Similar to this, it is possible to argue in favour of the AI's human creators by pointing out that, despite being a very effective tool *"caused the work to be created"* under Section 2(d)(vi).[33]

User as Author

From the perspective of causing the generation of work, the user might only be said to have done so in the restricted sense that they interacted with the AI. Additionally, when utilising AI, the user does not make same creative decisions that would directly affect the AI's output, such as when picking the lighting and other elements when snapping a

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[31] Russ Pearlman, 'Recognizing Artificial Intelligence (AI) as Authors and Investors under U.S. Intellectual Property Law' (2018) 24 RICH. J.L. & TECH.

[32] Samantha Fink Hedrick, 'I Think, Therefore I Create: Claiming Copyright in the Outputs of Algorithms' (2019).
8 NYUJ. INTELL. PROP. & ENT. L. 324.

[33] *Ibid.*

picture. Consequently, the user shouldn't be regarded as the author. Moreover, a practical challenge that arises when designating the user of AI as the author of the work is the difficulty of determining the authorship when multiple users utilize the same AI to produce identical output[34]

Programmer and User as Author in Other Jurisdictions

In the UK, the *"person by whom the arrangements necessary for the creation of the work are undertaken"* is defined as the author of the work under Section 9(3) CDPA read with Section 178 CDPA. In the UK case of *Nova Productions Ltd. v. Mazooma Games Ltd. & Ors.,*[35] the court decided that players of video games are not regarded as the authors of the video game frames since they did not provide the necessary *"skill or labour"* only that they played the game. This case supports the perspective that user would lack a basis for claiming authorship, as there is no involvement of theirs towards the *"skill and labour"* input into the AI[36]. This case reinforces the perspective that the user would lack a basis for claiming authorship, as their involvement does not contribute to the augmentation of *"skill and labour"* input into the AI. Instead, the UK's Whitford Committee report, which states that the programmer is the author of the output, can be used to support this claim. It states that *"the author of the output can be none other than the person, or persons, who devised the instructions and originated the data used to control and condition a computer to produce a particular result"*.[37] It is also possible to argue in support of the programmer as the author based on the Chinese case of *Shenzhen Tencent v. Ying Xun*[38]. The case acknowledged a connection between the AI's output and the humans controlling it. The decision acknowledged a direct relationship between the mental activity of the people using the AI and the output that was generated by it.[39]

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[34] Hedrick (n 32).
[35] *Nova Productions Ltd v Mazola Games Ltd & Ors.,* [2007] EWCA Civ. 219.
[36] Third Edition of the Compendium of U.S. Copyright Office Practices, 2017.
[37] 'The Whitford Report on the Law on Copyright and Design' (1977) JET 3:3, 88-90, DOI.
[38] *Shenzhen Tencent Computer System Co Ltd v. Shanghai Yingxun Technology Co Ltd* [2019] GSNDPC.
[39] Zack Naqvi, 'Artificial Intelligence, Copyright, and Copyright Infringement' (2020) 24 MARQ. INTELL. PROP. L. REV. 15.

Possible Solutions

Work enters Public Domain

According to copyright justifications such as the labour theory and personality theory, a tenable solution would be allow the work to be released into the public domain if both the programmer and user cannot be regarded as contributors who have imparted their personality or labour to the outcome of AI and if AI is not anthropomorphized to attribute authorship to it.[40] The existence of incentives other than copyright for the development of AI that produces works results in favour of letting the work get released in the public domain straight away.[41] The AI can produce an endless number of works for no additional cost and does not require any motivation to do so. However, refusing to acknowledge authorship in AI output would mean treating AI-produced content differently from human-produced content, even when AI-produced content cannot be distinguished from human-produced content on its own. This calls into question whether the work produced by AI deserves special treatment. When a claim is made that a piece of work was only produced by a human and not by AI, it is not necessary to handle the two types of works differently. This saves resources and prevents the need to verify the claim.[42]

Compulsory Licensing

Section 31A of Copyright Act, pertaining to mandatory licensing of both published works and unpublished work, may be interpreted broadly. If the authorship or ownership of the work produced by AI remains unrecognised, then Section 31A could be applied. This might be the case where neither the programmer nor the user, nor even the AI, is thought to be the originator of the work. *"Compulsory licence in unpublished*

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[40] Ayush Pokhriyal & Vasu Gupta, 'Artificial Intelligence Generated works under Copyright Law' (2020) 6(2) NLUJ Law Review 93.
[41] *Ibid.*
[42] Dilan Thampapillai, 'The Gatekeeper Doctrines: Originality and Authorship in Australia in the Age of Artificial Intelligence' (2019) WIPO-WTO Colloquium Papers.

or published works - (1) Where, in the case of any unpublished work or any work published or communicated to the public and... the author is dead or unknown or cannot be traced, or the owner of the copyright in such work, any person may apply for a licence to publish or communicate to the public such work," states Section 31A. A liberal understanding of Section 31A can be used to classify AI-generated content as *"work where the author is unknown and the owner cannot be found,"* enabling user or programmer to submit a request for using the content[43].

Recognising Limited Personhood for AI

Another alternative is to acknowledge AI's limited personality and treat it as the creator and owner of the work, with a person acting as the AI's agent to exercise copyright. Hindu idols, for instance, have historically been regarded as legal beings in India. According to the case *Pramatha Nath Mullick v. Pradyumna Kumar Mullick*[44], it was determined that the manager of a Hindu idol possesses rights similar to those of a manager overseeing the estate of an infant. Similar to this, AI could be regarded as a legal person can also be viewed as a legal person, and the programmer or user may be permitted to exercise the AI's copyright in its output.[45]

Programmer, user, or data supplier as "author"

According to Section 2(d)(vi) of the Copyright Act of 1957, author means *"in relation to any literary, dramatic, musical, or artistic work which is computer-generated, the person who causes the work to be created"*. If Section 2(d)(vi) were interpreted to encompass outcome generated by AI as computer-generated work and not solely attributed to AI, it would open the possibility for humans to be claimed as contributors who *"caused the creation of the work"*. In such a situation, the person who is responsible to have *"caused the creation of the work"* would be regarded as the author.[46]

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[43] Martin Miernicki and Irene Ng (Huang Ying ed.), 'Artificial intelligence and moral rights' (2021) 36 AI & SOCIETY 319.
[44] *Pramatha Nath Mullick v. Pradyumna Kumar Mullick* [1925] 27 497 BOMLR 1064.
[45] Nina I. Brown, 'Artificial Authors: A Case for Copyright in Computer-Generated Works' (2018) 20 COLUM. Sci. & TECH. L. REV. 1
[46] *Ibid.*

The programmer responsible for developing and training the AI can be thought of, albeit in a restricted sense, as having *"caused the work to be created"* and would possess a stronger claim in comparison to the user as per the provisions of Section 2(d)(vi), as opposed to the user's contribution, which lacks creative input that significantly impacts the AI-generated outcome. Due to the copyright law principle that states that ideas are not protected by copyright, but rather the people who give them expression, this data provider to AI would have a limited basis for claiming authorship. Since humans do not actively participate in shaping the expression of the AI's output, the data provider to the AI would have a weak claim. Additionally, as stated in Section 2(d)(vi), the data supplier for the AI does not actually *"cause the work to be created"*; rather, they only provide the data to the AI.[47]

Joint Authorship

Another option would be to give the programmer, user, data provider, and AI itself co-authorship of the work. The output generated by AI emerges from the AI's data processing capabilities, as well as the programmer's work in creating and honing the AI, the data provider's work in providing the data that powers the AI, and the user's engagement with AI through inputs. Giving shared ownership to the AI, the programmer, the user, and the data provider would be a method to acknowledge contributions of all the parties in the production process as a whole, including programming the AI to the outcome generated by it.[48]

Conclusion

The Indian Copyright Law and its rationale were used to evaluate the question of authorship and ownership in works produced by AI. First off, because AI generates work autonomously, it differs from other technological tools like a camera. So long as the work is original and not

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[47] Fenna Hornman, 'A robot's right to copyright' (*Tilburg*, 2018) <http://arno.uvt.nl/show.cgi?fid=145318> accessed 20 May 2023.
[48] V.K. Ahuja., 'Artificial Intelligence and Copyright: Issues and Challenges' (2020) ILI LRWI.

a copy of something else, it would pass the originality test. When assessed in an objective manner, it would also satisfy the requirement of possessing a *"minimum degree of creativity."*[49] The subjective standard of *"minimum degree of creativity"* would be met by AGI, Super-intelligent AI, and Strong AI, but not by ANI or Weak AI. The Indian Copyright Act's Section 2(d)(vi) is insufficient to cover works produced by AI. Instead, AI may be regarded as an author in accordance with Copyright Act Section 2(d)(i). If AI is given legal personality, it would be regarded as both the creator and the owner of the work.[50]

According to Section 2(d)(vi), the creator of AI holds a stronger position with respect to the claim of authorship of the work compared to an AI user or data provider. The labour theory, personality theory, or motivation theory do not call for giving AI copyright. But the copyright must be awarded in accordance with utilitarian theory. Thus, the issue of authorship and ownership in works generated by AI could be resolved by allowing the work to be in the public domain, requiring license for its use, recognising AI's limited personhood, granting joint authorship to relevant parties involved, or establishing a *sui-generis* right for such works.[51]

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[49] *Ibid.*

[50] Andres Guadamuz, 'Do androids dream of electric copyright? Comparative analysis of originality in artificial intelligence generated works' (2017) 2 IPQ 169.

[51] Kalin Hristov, 'Artificial Intelligence and the Copyright Dilemma' (2017) 57 IDEA 431.