



DETERMINING OWNERSHIP AND ASSESSING COPYRIGHT ELIGIBILITY OF AI-GENERATED WORKS

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ABSTRACT

The rise of artificial intelligence (AI) has introduced complexities in the domain of copyright law, particularly concerning the ownership and protection of AI-generated works. This research explores the eligibility of such works for copyright protection under existing legal frameworks, focusing on the Indian Copyright Act of 1957. By examining key stakeholders—programmers, users (prompt givers), and AI systems—this paper identifies users as the most appropriate claimants for ownership. This conclusion is grounded in principles like the "sweat of the brow" and "modicum of creativity," emphasizing originality, intellectual contribution, and meaningful human input. The analysis draws from global legal frameworks, including case laws from the US, EU, UK, and China, to highlight diverse approaches to AI-generated works. The study advocates for granting copyright protection to AI-generated works, with ownership attributed to users who demonstrate significant intellectual effort. This step is essential to incentivize innovation, provide legal clarity, and safeguard rights in an era of rapid technological advancement.

Keywords: AI-Generated Works, Copyright, Ownership, Legal Framework, stakeholders.

INTRODUCTION

Artificial intelligence is transforming creative processes, generating works that challenge traditional notions of originality and authorship. From AI-generated art to algorithmically composed music, these innovations raise fundamental questions: Who owns these creations? Do they qualify for copyright protection under existing legal frameworks?

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This paper delves into these issues, focusing on Indian copyright law while drawing comparisons with global practices. By analyzing the roles of programmers, users, and AI systems, it identifies users—those who provide meaningful inputs—as the rightful owners of AI-generated works. This approach aligns with established legal principles, paving the way for a reimagined intellectual property framework that supports innovation and protects creative contributions in the age of AI.

OBJECTIVE OF THE STUDY:

1. **Determine Ownership of AI-Generated Works:** Identify the most appropriate claimant for ownership like programmers, users, or AI systems—by analyzing their roles and contributions in the creative process.
2. **Propose Legal Frameworks for Copyright Protection:** Advocate for amendments to Indian copyright law to address the challenges posed by AI-generated works, ensuring clarity in authorship, ownership, and originality criteria.
3. **Promote Innovation While Protecting Rights:** Develop a balanced approach that incentivizes technological innovation and creativity while safeguarding the rights of individuals contributing intellectual effort to AI-generated content.

METHODOLOGY

This research adopts a qualitative and analytical methodology, utilizing case studies, legal analysis, and secondary sources to explore the ownership and copyright eligibility of AI-generated works. Secondary sources, including peer-reviewed journals and legal commentaries, provided theoretical insights, while a comparative analysis across jurisdictions highlighted gaps and potential reforms. This approach ensures a comprehensive understanding of the legal, ethical, and practical challenges surrounding AI-generated content.

LITERATURE REVIEW:

1. **AI Training Data and Global Power Dynamics:** Kushagra Tiwari discusses how opt-out mechanisms for AI training data can reinforce existing global power asymmetries, highlighting the implications for data privacy and equity in technology access.

2. Obscenity in Legal Context: Dr. Abhimanyu Chopra, Aman Choudhary, and Kushagra Jain provide a comprehensive analysis of obscenity through a legal lens, divided into two parts. The first part sets the stage for understanding legal definitions and implications, while the second part delves deeper into case law and societal impacts.

3. AI and Intellectual Property Rights: Harshal Chhabra and Arihant Sethia examine the impact of artificial intelligence on intellectual property rights, advocating for reforms in Indian patent law to address the challenges posed by AI innovations.

4. AI-Generated Art: Subhajt Basu and Ankeeta Dutt explore the challenges that AI-generated art presents to creative integrity, raising questions about authorship and originality in the age of AI. These articles collectively contribute to the discourse on how emerging technologies intersect with legal frameworks, emphasizing the need for ongoing reform and adaptation in law to keep pace with technological advancements.

RESEARCH HYPOTHESIS:

Granting copyright protection to AI-generated works is essential for fostering innovation and providing legal clarity.

Clear legal frameworks will have to be formulated to address the issue of ownership and authorship of AI generated works and minimize disputes.

Granting copyright protection will also empower individuals to express their ideas in tangible forms through AI, thereby encouraging the creation of new and original works.

WHO OWNS THE AI GENERATED CONTENT?

The first step to resolving the issue regarding the ownership of AI generated content is defining the stakeholders who were present in the generation and usage of AI.

Key stakeholders include:

1. Programmer or Developer of the AI:

The question of ownership of AI-generated materials by creators is not ethnically straightforward and is complex for developers and users. In general, developers may feel

entitled to ownership if their intellectual and technical work, such as designing, coding, or training the AI model, is the reason for AI-created content.

Developer Ownership via Terms of Services:

To a limited extent, AI developers will indicate ownership rights in the terms of service agreements for their tools. These terms determine whether the developer retains ownership of AI-generated content or transfers Ownership to the user who interacts with the tool.

Example:

OpenAI, Adobe, Microsoft, Stability AI, and MidJourney (only for paid users) acknowledges ownership to users, whereas ownership restrictions are imposed by Getty Images AI, Google (to an extent), and custom enterprise AI systems.

Licensing agreements or contractual terms help developers assert their ownership claims, at least over the outputs, which have been created through the use of AI tools. Yet, the issue becomes contentious when multiple parties, including end-users or collaborators, are involved in content creation.

Logically, granting developers copyright over such outputs seems unfair. For example, Microsoft cannot claim copyright over paintings created using Microsoft Paint, even though its tools significantly assist in creation. Similarly, AI provides a service, but the final product reflects the user's creative choices and application of thought.¹

The programmer contributes to the functioning of the AI and the creation of its output by developing its code, training it on data, and fine-tuning or reconfiguring it based on the results of the training process to ensure optimal performance. However, a counterargument to considering the programmer as the author is that the AI's outputs are often unpredictable and beyond the programmer's direct control, making it difficult to attribute the creation of the work to them.²

2. Prompt givers or Users of AI

¹ Harshal Chhabra and Kanishk Gaurav Pandey, Balancing Indian Copyright Law with AI-Generated Content: The 'Significant Human Input' Approach, *Indian Journal of Law and Technology*, 2021

² Samantha Fink Hedrick, I Think, Therefore I Create: Claiming Copyright in the Outputs of Algorithms, 8 *NYU J. INTELL. PROP. & ENT. L.* 324 (2019).

When Can Prompt Givers or Users Claim Ownership?

Ownership can be claimed in case of creative contribution beyond the simple prompt input by the user. It is said that courts around the world, including India, have repeatedly emphasized that originality and creativity are the pre-conditions to grant ownership. For example, in the case of Kristina Kashtanova's *Zarya of the Dawn*, the U.S. Copyright Office granted the copyright of the novel's textual arrangement, as it involved significant human input, but refused protection for images generated through AI. When a user provides rich, sophisticated prompts that involve intellectual effort and creative intent, then they may be considered co-authors, depending on the jurisdiction. Ownership can also be acquired through contracts with the AI service provider. Some AI tools allow users to retain rights to outputs generated under their terms of service.

When Can Prompt Givers or Users Not Claim Ownership?

Simple or generic prompts, such as "Generate a sunset image," do not qualify for copyright protection as they lack sufficient human originality. In *Naruto v. Slater*, the court ruled that non-human authorship (even partial) invalidates copyright claims. Many jurisdictions, such as the U.S. and the EU, do not extend copyright protection to fully AI-generated outputs without any meaningful human intervention. If the AI provider explicitly disclaims ownership over outputs in its terms of use, then the generated content falls into the public domain. For example, OpenAI and Google Bard disclaim ownership over generated outputs, but it is hard for the users to claim exclusive rights.

Application of the Doctrine of Sweat of the Brow

It is a doctrine established in cases like *Feist Publications Inc. v. Rural Telephone Service*³ wherein ownership can be awarded to those who put in efforts, skills, and creativity in the creation of work. In this principle, the person who puts in labor and ingenuity is considered the proprietor of the resultant content.

This doctrine brings an interesting question as to whether users of AI, who provide inputs or guide the creative process, can have ownership of the outputs when evaluating ownership of AI-generated works.

³ *Feist Publication Inc. v. Rural Telephone Service*, 499 U.S. 340

This doctrine can support the case for user ownership if there is significant effort involved on the part of the users, including offering specific, creative prompts or refining the output given by AI. Such an effort demonstrates a level of intellectual labor akin to what was previously described as "sweat of the brow," in order to claim ownership. *Nova Productions Ltd v Mazooma Games Ltd & Ors* is a UK case where the Court did not regard players of a video game as the author of frames of video games as they did not contribute the required "skill or labour", and only played the game. This case supports the view that the user would not have a claim to authorship as he does not contribute "skill and labour" to the result of the AI.

3. AI system

Lack of legal personhood: Indian law does not recognize AI as a legal person. Ownership rights, including copyright, are granted only to legal entities, which consist of either natural persons (human) or juristic persons (like companies or organizations). Since AI fits into neither category, it cannot hold or enforce ownership rights. The jurisprudence on legal personality, through its broadened definition, encompasses corporations, companies, and certain other entities besides natural persons⁴. However, no expanded definition has yet been developed to encompass the cognitive functions of AI.

According to Section 2(d) of the Indian Copyright Act, 1957, authorship is explicitly linked to a "person" who creates or facilitates the creation of a work. As AI operates independently, without direct human involvement during the creative process, it does not fulfill the criteria for "authorship" as defined by the law.

Enforcement of rights: Ownership rights come with the ability to enforce them legally. An AI system, which lacks consciousness and legal standing, cannot sue, be sued, or enter into contracts. Allowing AI to own its work would create enforcement gaps, as there would be no responsible entity to claim or defend rights.

Creativity: While AI can simulate creativity, it does so through programmed algorithms and data processing rather than through original intent or judgment. Recognizing AI as an owner could blur the lines between human and machine creativity, raising ethical dilemmas. The concept of 'novelty' represents a small but essential degree of creativity required for a work to qualify for copyright protection. While novelty is not an absolute requirement for claiming

⁴ John Dewey, 'The Historic Background of Corporate Legal Personality' (1926) 35 The Yale Law Journal 655-657; Arthur W. Machen, 'Corporate Personality' (1911) 24 Harvard Law Review 256

copyright, it plays a significant role in highlighting the inherent limitations of AI and understanding why it cannot be recognized as a legitimate owner of intellectual property rights. The principle of a minimum level of creativity closely aligns with the idea of novelty⁵, emphasizing that a work must demonstrate at least a basic level of originality to be eligible for copyright. AI-generated works, however, fail to meet these criteria, as they cannot be deemed truly creative or novel.

Among the stakeholders discussed, the user or prompt giver emerges as the most fitting claimant for ownership of AI-generated content. This conclusion is rooted in the principle that ownership should be attributed to the individual who contributes meaningful creativity, effort, and intellectual input into the process. While developers and programmers enable the functioning of AI systems, their contribution is foundational and not tied to specific outputs. AI systems themselves lack legal personhood and the ability to claim rights. The user, on the other hand, exercises direct control over the creative process through their prompts, refinements, and intended application of the content. When users provide specific, sophisticated inputs or meaningfully engage with the outputs, their role mirrors that of an author, aligning with the "sweat of the brow" doctrine and existing legal standards for originality and creativity. Therefore, the rightful ownership of AI-generated works should rest with the user, provided they meet these criteria.

ELIGIBILITY OF AI-GENERATED WORKS UNDER INDIAN COPYRIGHT LAW

The Indian Copyright Act, 1957 provides a statutory foundation for recognizing AI-generated works as eligible for copyright protection. The Act outlines specific requirements such as originality, authorship, and expression in a tangible form, all of which can be interpreted to include works generated by AI.

Originality, as required under Section 13⁶, is a key criterion, but the Act does not explicitly define it. Indian courts have applied principles like the "Sweat of Brow" doctrine (effort and labor) and the "Modicum of Creativity" doctrine (minimum intellectual effort) to establish originality.

⁵ Manish Jindal, 'Originality in Copyright' [2023] Bytes Care <<https://bytescare.com/blog/originality-in-copyright>>

⁶ Copyright Act, 1957, s 13.

Authorship is another critical factor, defined under Section 2(d)⁷ of the Act. For computer-generated works, authorship is attributed to "the person who causes the work to be created." This provision allows for flexibility in determining who qualifies as the author of an AI-generated work. Depending on the specific use case, authorship could be attributed to the programmer who designed the AI system, the user who provided input or direction, or even a combination of both.

Ownership, however, can be distinct from authorship. Section 17⁸ of the Act establishes that authors are not always the owners of the copyright, as is the case with works created under employment or commission. This principle can be extended to AI-generated works, ensuring that ownership rights are held by the human or corporate entity managing the AI.

Traditionally, intellectual property (IP) laws, especially copyright laws, have been grounded in the notion of a human creator who produces a work with creativity, originality, and independence, reflecting their personal mind and character.⁹ Therefore, the conventional understanding of authorship and ownership requires adaptation to account for works generated by AI.

ANALYSIS OF CASE LAWS

1. In Navigators Logistics Ltd v. Kashif Qureshi,

A computer-generated list was rejected for copyright protection due to the absence of human intervention. India requires human involvement in the creation process for copyright protection. The "Significant Input" test determines whether an author who used AI assistance can claim copyright. It requires two criteria: human involvement and the extent of that involvement. The human skill, judgment, and labor invested must be significant enough to make the product fundamentally different or non-existent without it.

2. Zarya of the Dawn case

The USA recently recognized a similar right based on the Zarya of the dawn ('Zarya') case. The Copyright Office recognized protection for a graphic novel generated by AI, assessing the

⁷ Copyright Act, 1957, s 2(d).

⁸ Copyright Act, 1957, s 17.

⁹ Colin R. Davis, An Evolutionary Step in Intellectual Property Rights – Artificial Intelligence and Intellectual Property, 27 COMPUTER L. & SECURITY REV. 601 (2021).

author's skill, judgment, and creativity in arranging, selecting, and editing the AI-generated images. The USA copyright office issued a formal policy stating that a work containing AI-generated material may be granted copyright if it has sufficient human authorship.

Despite similarities, there are differences between our proposed standard and the US copyright office's. The 'Significant Input' test is a general standard that assesses human involvement in the creation process. It applies to various copyrightable products, including music, books, and software. However, it may not be suitable for specific acts undertaken by authors in graphic novels, as it attributes originality to specific actions like 'arrangement' and 'selecting'.

The significant input test focuses on evaluating the overall level of human creativity, judgment, and effort exerted in the creative process. It acknowledges that originality can arise from various forms of human input, not limited to specific actions.

This distinction is crucial because the Zarya standard emphasizes the author's specific creation process actions. In legal commentary, the author's primary contribution lies in initial research and engagement with the subject matter, not specific acts of arrangement or selection.

While the author may not have undertaken acts prescribed by the Zarya standard, substantial involvement in research prior to AI tool use is sufficient to meet the originality test.

The proposed test doesn't import the USA's 'modicum of creativity' standard for AI-generated work originality, as Indian courts consider it too high for copyright law.

3. D.B. Modak case

The court clarified its adoption of Canadian standards by stating it implies the product must be 'Novel' or 'Non-Obvious,' concepts associated with patent law rather than copyright law. It also claimed current standard is more closely associated with the Indian Copyright Act's objectives.

Retaining 'Skill and Judgement' standard while determining the copyrightability of AI-generated products by asking additional questions suitable for a new era of AI-generated works, our proposed test is better suited to help Indian copyright law transition into an era where it might grant copyright protection to AI-generated products.

LEGAL FRAMEWORK

US:

Under US law, copyrights in creative works of authorship fixed in a tangible medium vest in the author immediately upon creation (17 US Code §201). However, US copyright law has repeatedly been interpreted to require human authorship for that ownership. In the “monkey selfie” case (*Naruto v. Slater*), the US Court of Appeals for the Ninth Circuit held in 2018 that a monkey does not own the copyright in a photograph it snapped of itself. In 2023, the US District Court for the District of Columbia reaffirmed this stance in *Thaler v. Perlmutter*, where the plaintiff, Stephen Thaler, developed an AI tool that generated work. However, Thaler intentionally limited any human creativity and emphasized the role of the machine.

Notably, the series of case law and guidance from the US Copyright Office, our primary source of guidance for individuals seeking copyright ownership of works they developed with generative AI tools, establishes that under current US law, there is no ownership of AI-generated works by anyone. This includes the authors of the AI tool, the tool itself, and the individual who enters the prompts to generate the work. Consequently, these works are currently considered to be in the public domain, without copyright protection.

The US copyright office provides further clarification, stating that a work containing AI-generated material will also have sufficient human authorship to support a copyright claim. For instance, if an author creatively arranged or substantially modified AI-generated works, copyright protection would apply to the human-authored aspects. However, copyright protection would only extend to the human-authored elements, which are independent and do not affect the copyright status of the AI-generated material itself.

Therefore, the US Copyright Office requires the identification of AI-generated and human-generated content in works submitted for registration. Only the human-authored content will be granted protection.

For example, in its registration decision regarding the comic book “Zarya of the Dawn,” the US Copyright Office denied protection for images created using the generative AI art platform Midjourney but allowed registration for the text, the selection, and the arrangement of images and text. The applicant, Kris Kashtanova, attested to sole responsibility for these elements.

The US Copyright Office also reaffirmed that protection remains for underlying original works, even when enhanced by technological tools.

The US Copyright Office noted that it will continue to monitor this new technology and may issue further guidance in the future. Consequently, the current guidance emphasizing “sufficient human authorship” could potentially support a future award of copyright protection for AI-generated works, or portions or variations thereof. However, for now, there is no assurance of protection for AI-generated works in the US.

THE EUROPEAN UNION

EU copyright law comprises 13 directives and two regulations. However, none of this legislation, nor the upcoming EU AI Act, directly addresses the ownership of AI-generated works. Outside the legislation, there’s limited relevant EU-level case law.

The Court of Justice of the European Union (CJEU) provides some guidance in *Infopaq International A/S v Danske Dagblades Forening* (Case C-5/08). It held that copyright only subsists if there’s originality flowing from the “author’s own intellectual creation.” This has been widely interpreted to mean that significant human input is required.

However, it’s for individual EU member states to determine whether AI-generated model outputs meet this requirement. For instance, the German Copyright Act requires an author’s “own intellectual creation” for a copyrightable work. It’s presumed that neither a machine nor a computer program can be the author, so an “intellectual creation” must be created by a human. Similarly, France’s current presumption is that only natural persons can be considered authors. Originality requires “the personal touch or intellectual effort” of the author, while “implementation of automatic and constraining logic” without “genuine personal effort” won’t qualify.

Nevertheless, it remains uncertain where sufficient human input could be generated with the assistance of an AI-generative model, allowing the human to claim ownership of the work.

UK:

The UK’s copyright position mirrors the EU’s, requiring a copyrighted work to be an “author’s own intellectual creation” and exhibiting the author’s “personal touch.” As in other jurisdictions, copyright exists when a human author uses a tool, such as a word processing

package or a pen, to create a work. However, if all the “creativity” occurs within an AI platform, it may be concluded that, like other countries, output from generative AI would not be protected in the UK.

Significantly, the UK’s copyright legislation, the Copyright Designs and Patents Act 1988 (CDPA), extends copyright protection to “computer-generated works.” While theorists have challenged the idea that a non-human “computer” can generate a copyrightable work with creative skill, Section 9(3) of the CDPA clearly states that the person who makes the “arrangements necessary for the creation of the work” is the author of the resulting copyrightable work. This position was recently affirmed by the UK government and the UK Intellectual Property Office, which held an open consultation in 2022 specifically on applying Section 9(3) to generative AI, concluding that it should remain.

While there is an open question about who the person making “necessary arrangements” is in practice, it seems clear that copyright exists in generative AI outputs in the UK.

CHINA:

China’s general rule is similar to the other jurisdictions we’ve examined: A “work” eligible for copyright protection under the Copyright Law of the People’s Republic of China (CL) must be an original “intellectual achievement.” Although the CL doesn’t specifically address the copyrightability of AI-generated content, two recent court decisions provide valuable insights and may offer a conceptual framework applicable to other countries.

In 2019, the Shenzhen Nanshan District Court ruled that generative AI output, or at least some output, may be eligible for copyright protection. In the case of Shenzhen Tencent v. Shanghai Yingxun, the court affirmed that AI-generated text created using Tencent’s Dreamwriter writing AI software could be considered protectable works. The court determined that the “work” in question was not solely the result of AI, as Tencent’s inputs, particularly in areas like data arrangement, selection, and trigger condition setting, played a crucial role in the output generation process. Although Dreamwriter lacked “personhood,” the court found that multiple teams within Tencent were involved in the creation of the work, and therefore, Tencent owned the copyright.

In a more recent case, the Beijing Internet Court ruled that an image generated by Stable Diffusion met the “intellectual achievement” and “originality” criteria. The court held that the

user's input of prompt texts and parameter setting constituted an intellectual contribution, resulting in a personalized expression of the user's thoughts. Moreover, the court determined that the user, rather than the platform developer, owned the copyright because the developer lacked the intention to create the image and did not control the inputs.

These decisions raise the question of whether a work generated "purely by AI" could be found copyrightable. However, the general reasoning regarding the "arrangement and selection" of inputs may provide a path toward copyright protection for at least some users of generative AI tools.

INDIA:

The Copyright Act of 1957 applies to creativeness in works in India, however, AI systems are not considered authors. Section 2(d) explains that an 'author' is a person who is a human or a legal person, but definitely not an AI. Indian law courts have endorsed this view during their previous rulings.

Using materials from the US fair use doctrine allows allowing use of limited copyrighted material in certain situations. Determining fair use in the case of AI-generated works concerns factors such as the purpose and character of the use, the nature of the work, the amount and substantiality of the portion used, and the effect of the use upon the market. Transformative use that alters the meaning is usually important.

Several measures can be taken to deal with legal issues:

Update IP laws according to modern-day needs pertaining to AI developments, especially with regards to copyright ownership and fair use in the digital context.

Treat AI-generated material differently from traditional copyright and focus on filling the gaps without jeopardising the existing laws.

Create and enforce policies on data governance and usage in AI projects focusing on how copyrighted material can be ethically and responsibly used in training.

AI firms to appoint compliance officers to help ensure compliance on copyright protection, conduct audits and review AI materials. The Copyright Act of 1957 is silent on the recognition of AI as an author and even makes no mention of works created by AI. Such amendments for

instance could include classification of AI as a different entity or enact a new classification of AI.

FINAL HYPOTHESIS

Granting copyright protection to AI-generated works, with ownership attributed to users who contribute meaningful creativity and intellectual input, is essential to incentivize innovation, promote legal clarity, and safeguard the rights of individuals engaging with AI. Recognizing ownership rights for AI-generated works can incentivize individuals and businesses to invest in AI technology by reducing the risks associated with its use while fostering a robust framework that supports both creativity and technological advancement.

CONCLUSION

The increasing prevalence of AI-generated works necessitates a reevaluation of traditional intellectual property frameworks to accommodate new forms of creativity and authorship. Among the key stakeholders—programmers, prompt givers (users), and AI systems—the user emerges as the most appropriate claimant for ownership of AI-generated content. This conclusion aligns with established principles in copyright law, such as the "sweat of the brow" and "modicum of creativity" doctrines, which emphasize effort, originality, and intellectual contribution. While programmers enable the AI's functionality and AI systems lack legal personhood, users directly guide and shape the creative process through meaningful input and refinements. Therefore, users who demonstrate significant intellectual effort should be recognized as rightful owners of AI-generated works.

Legal recognition of AI-generated works under copyright law, particularly in India, requires a balanced interpretation of originality, authorship, and ownership. The Indian Copyright Act, 1957, provides flexibility to address these issues by attributing authorship to "the person who causes the work to be created" and distinguishing ownership from authorship. However, clearer guidelines are needed to define the criteria for meaningful human input and establish equitable ownership rules.