International Journal of Research in Interdisciplinary Studies
Volume 3, Issue 5, May 2025
https://www.ijris.com | ISSN (Online): 2584-1017

Artificial Intelligence and Ownership Issues – A Comparative Analysis

Rushil Pathak*
Student, Amity Law School, Noida, India

Abstract— This research delves into the evolving intersection of Artificial Intelligence (AI) and Intellectual Property (IP) law, with a particular focus on the copyrightability of AI-generated works. As AI technologies increasingly demonstrate the capacity to autonomously create literary, artistic, and musical content, they challenge the foundational principles of copyright law, which traditionally hinge on human authorship and creativity. The study critically examines whether existing legal frameworks, especially in India, are equipped to address the complexities introduced by AI-generated content and whether such works can be granted copyright protection under current statutes. The paper begins by contextualizing AI as a transformative force in the 21st century, influencing sectors from healthcare to creative industries. It highlights the growing reliance on AI in generating original content and the subsequent legal ambiguity surrounding authorship and ownership. The Indian Copyright Act, 1957, while recognizing computer-generated works, lacks clarity on the status of AI-generated content, particularly in the absence of human intervention. This legal gap raises fundamental questions about the definition of creativity, authorship, and the scope of protection under copyright law. Through comparative legal analysis, the study explores how jurisdictions such as the United States, United Kingdom, and European Union interpret and apply copyright principles to AI-generated works. Landmark cases and statutory provisions are examined to understand the global legal stance on authorship, originality, and ownership in the context of AI. The research also evaluates the relevance of international treaties like the Berne Convention and TRIPS Agreement, noting their silence on AI while identifying interpretive possibilities that could accommodate AI-generated works. Key research questions include whether AI-generated works meet the threshold of creativity required for copyright protection, who qualifies as the author or owner, and whether AI can be granted legal personhood or co-authorship status. The study also considers the implications of denying copyright protection to AI-generated works, including potential violations of competition law and disincentives for innovation and investment in AI technologies. Employing a doctrinal methodology, the research relies on secondary sources such as legal commentaries, international reports, and judicial decisions. It aims to propose viable legal reforms that align Indian copyright law with international standards, ensuring that AI-generated works receive appropriate recognition and protection. Ultimately, the study advocates for a nuanced and adaptive legal framework that reflects the realities of technological advancement. It emphasizes the need for legislative clarity, judicial interpretation, and international cooperation to resolve current ambiguities and ensure that the legal system evolves in tandem with AI's growing role in creative processes. The research concludes by offering practical suggestions for harmonizing Indian copyright law with global best practices, thereby safeguarding both innovation and the integrity of intellectual property rights in the age of artificial intelligence.

***Index Terms*— Artificial Intelligence, Ownership Issues.**

1. Introduction

A. Background

The integration of Artificial Intelligence (AI) into everyday life has transformed the way societies function, bringing revolutionary changes across industries such as healthcare, education, finance, transportation, and the creative arts. AI systems today are capable of generating music, art, literature, and even designing technological solutions with minimal human assistance. Such capabilities have initiated legal debates on the nature and scope of ownership rights—particularly intellectual property rights—when the creator is not a human but a machine.

These debates hinge on traditional IP frameworks that presuppose human authorship or inventorship. When AI produces a poem, writes software code, or invents a mechanical device, the central question becomes: who owns these creations? This conundrum poses significant challenges to legal systems globally, particularly when the laws are designed with a human-centric model in mind.

B. Rationale of the Study

The exponential growth of AI technology necessitates a critical evaluation of existing legal frameworks. Most intellectual property laws globally, including those in India, the United States, and the European Union, do not currently recognize non-human entities as capable of owning IP rights. This leads to ambiguity and inconsistency in protection and ownership attribution. As India prepares to enter the next decade of digital and AI-driven growth, a clear, adaptive legal framework on AI ownership is imperative.

By conducting a comparative legal analysis, this study seeks to highlight best practices, identify legislative gaps, and recommend reforms that reflect both global trends and local needs.

C. Statement of Problem

Artificial Intelligence-generated works blur the lines between human and machine authorship. Current legal systems

*Corresponding author: rushilpathak96@gmail.com

are not well-equipped to address this shift. The major legal questions that arise include: Can AI be recognized as an author or inventor? Who should own the rights to the outputs of autonomous systems? Should the AI's user, developer, or data trainer receive ownership? These issues require urgent academic and legal attention, particularly in India where legislative reform in this domain remains in its infancy.

D. Objectives of the Study

The core objectives of this research are:

- To analyze the fundamental challenges to IP frameworks posed by AI-generated works.
- To examine and compare how India, the United States, and the European Union handle AI-related ownership issues.
- To evaluate the sufficiency and adaptability of Indian IP law in addressing AI innovation.
- To suggest legal reforms suitable for India, inspired by comparative insights.

E. Research Questions

1. Can AI systems qualify for authorship or inventorship under prevailing IP laws?
2. Who should legally own the outputs produced by AI systems?
3. What are the comparative legal perspectives in the US, EU, and India on AI-generated IP?
4. How can Indian IP law be restructured to account for AI's role in innovation?

F. Hypothesis

Indian intellectual property laws, in their current state, are inadequate in addressing the complexities introduced by AI-generated innovations. A reformed legal model—potentially incorporating joint authorship or sui generis recognition—is required to provide legal certainty and support innovation.

G. Research Methodology

This research employs a doctrinal methodology, with an emphasis on:

- *Primary Sources*: Statutes, judicial decisions, international treaties, and official policy documents.
- *Secondary Sources*: Law journals, scholarly commentaries, research papers, and AI policy whitepapers.
- *Comparative Analysis*: Detailed examination of approaches from the US, EU, and India.
- *Analytical Approach*: Evaluating and synthesizing legal principles through a critical and evaluative lens.

H. Scope and Limitations

Scope: The study is confined to legal issues pertaining to ownership of AI-generated works, particularly within intellectual property laws.

2. Intellectual Property and the Challenges Posed by Artificial Intelligence in Copyright Law

"Pursuing innovation is inherently fraught with uncertainty, particularly in today's complex technological environment, where predicting market trends is exceptionally difficult. Within this context, intellectual property (IP) has emerged as a critical and strategic business tool, enabling solutions to intricate global problems." — Steve Evans

"The nature of intellectual property is comparable to that of tangible property; unauthorized use of copyrighted material is akin to trespass. Although such intrusion does not dispossess the owner of their land, it nonetheless violates their legal entitlements and personal autonomy. Similarly, the essence of copyright infringement lies not merely in the duplication of content but in the unauthorized seizure of the creator's right to control their intellectual output." — Brad Templeton

This section presents an in-depth exploration of the evolving relationship between intellectual property law and the proliferation of artificial intelligence (AI), with particular emphasis on the complications introduced into the domain of copyright. Established legal constructs such as authorship and originality—cornerstones of copyright protection—are increasingly challenged by AI systems capable of producing content absent human initiation, yet exhibiting levels of creativity and innovation comparable to or exceeding human efforts.

[1] The section will critically examine the conceptual foundations of copyright in light of AI-generated works, assess the robustness of current legislative regimes, and analyze emerging doctrinal adaptations and policy proposals. As AI technologies increasingly occupy the space of creative agency, they prompt a re-evaluation of legal interpretations and enforcement mechanisms, thereby raising profound theoretical and normative questions for legislators, judicial authorities, and stakeholders in the creative and technological sectors.

This section serves as the critical analytical foundation of this research, engaging directly with the core hypothesis by addressing the principal legal questions surrounding the copyright status of works generated by artificial intelligence (AI).

To thoroughly analyze the legal complexities concerning authorship and protection of AI-generated content, this study draws from influential deliberations led by the World Intellectual Property Organization (WIPO). Particularly notable is the 2020 Resolution of the European Parliament, which echoes global apprehensions about AI's capabilities. The resolution asserts that "artificial intelligence is surpassing human intellectual capacity, potentially posing a threat to humanity. To mitigate the risks associated with AI, it is essential that humans retain the ability to control their own creations."

Judicial decisions have also significantly informed this discourse. One salient example is the widely discussed "monkey selfie" case in the United States, where the court ruled that creations made by non-human agents or mechanical

processes are ineligible for copyright protection. Although this decision centered on animal-generated content, it has far-reaching implications for AI-generated works produced independently of human authorship.

[2] Collectively, these developments emphasize that AI is not merely an incremental technological innovation; it represents a profound shift that is reshaping cultural, industrial, and legal paradigms. Propelled by the rise of big data, increasingly sophisticated algorithms, and exponential computational capacity, AI is rapidly establishing itself as one of the most transformative technologies of the modern era.

The nature of our engagement with AI will, in large part, define the architecture of future societies. Nowhere is this more evident than in the field of intellectual property law, where AI is fundamentally redefining traditional notions of authorship, ownership, and creative attribution.

In this context, physicist Stephen Hawking's warning is particularly compelling: "The development of full artificial intelligence could spell the end of the human race." He further cautioned, "It would take off on its own, and re-design itself at an ever-increasing rate. Humans, who are limited by slow biological evolution, couldn't compete, and would be superseded." These insights accentuate the critical urgency for developing robust legal, ethical, and regulatory structures capable of both harnessing AI's transformative power and protecting essential human interests.

Artificial Intelligence (AI) has emerged as a transformative technological force, fundamentally altering the way individuals engage with their environments across personal, professional, and societal dimensions. Its expansive influence spans a multitude of domains, encompassing daily conveniences as well as paradigm-shifting advancements in the arts, communication systems, transportation, and global governance.

Contemporary AI systems are now capable of autonomously generating highly sophisticated creative outputs—ranging from poetry and digital art to complex musical compositions—with remarkable efficiency and scale. This development challenges conventional frameworks of creative authorship and originality, prompting critical legal and philosophical inquiries into the nature of cultural production in the digital age.

At the practical level, AI has significantly enhanced personal productivity and user experience. From managing calendars and task lists through intelligent virtual assistants to curating personalized media recommendations on platforms such as Netflix and YouTube, AI facilitates decision-making and simplifies routine engagements. Chatbot-based conversational agents enable real-time interaction, while autonomous vehicles like Tesla represent the convergence of AI and mobility. The widespread deployment of facial recognition technologies, notably by companies like Facebook, illustrates AI's expanding role in identity authentication and social interaction.

Voice recognition systems, now ubiquitous in consumer technology, offer advanced functionalities such as dynamic voice modulation and real-time linguistic transcription. [3] The convergence of AI with the Internet of Things (IoT) has enabled comprehensive home automation, granting users seamless control over lighting, security, and environmental settings via smart interfaces.

Globally, AI is at the forefront of automation strategies aimed at enhancing precision, reducing human error, and decreasing reliance on manual labor. Governments and private sectors alike are investing substantially in AI infrastructure, seeking to realize highly efficient, automated ecosystems across various industries.

Beyond operational efficiency, AI is increasingly deployed in addressing global systemic challenges. It contributes to environmental sustainability through predictive analytics in climate modeling and energy resource optimization. In the cybersecurity domain, AI facilitates rapid threat detection and response, reinforcing digital resilience. These applications underscore the multifaceted role of AI as both an enabler of technological progress and a vital instrument in solving complex, transnational issues confronting contemporary society.

Artificial Intelligence (AI) is continually expanding the scope of technological innovation, delivering transformative outcomes in sectors such as healthcare, agriculture, communication, and the creative industries. In the medical field, recent publications from the United States highlight that AI-enabled IP systems are playing a crucial role in assisting healthcare providers in managing complex chronic diseases, thereby promoting more efficient and personalized treatment regimens.

In Denmark, an advanced AI-powered Emergency Medical Services system has been implemented to detect life-threatening conditions like cardiac arrest through real-time analysis of vocal cues during emergency calls. Meanwhile, across the European agricultural sector, farmers are increasingly utilizing AI-driven surveillance technologies to monitor livestock health indicators—including temperature, feeding behavior, and mobility—thereby improving both operational efficiency and animal well-being.

[4] The United States has also witnessed major developments with the release of GPT-3, an advanced natural language processing model capable of producing written content, responding to user queries, translating between languages, summarizing text, and even writing executable code. This represents a significant leap in AI's capabilities in areas traditionally reliant on human language and cognitive functions.

According to Andres Guadamuz, AI is now autonomously generating cultural and creative artifacts across multiple mediums, including localized news, digital art, fictional narratives, and musical compositions, often relying solely on analysis of audio datasets. This trajectory of innovation is not without historical precedent. In 1997, IBM's Deep Blue demonstrated AI's strategic reasoning capabilities by defeating world chess champion Garry Kasparov in a six-game match—

a milestone that presaged many of today's advancements.

Together, these examples reveal the increasingly integrated role of AI in domains historically characterized by human creativity and intellectual labor. As international recognition of AI's contributions continues to grow, the shift toward machine-assisted innovation and cultural production signals a profound transformation in our understanding of creativity, expertise, and technological potential. These developments represent merely the beginning of what may become a vast expansion of AI applications across all areas of human endeavor.

[5] The accelerating incorporation of Artificial Intelligence (AI) into diverse technological domains has prompted regulatory reassessment by governments worldwide. The widespread deployment of AI has given rise to complex legal and ethical challenges, particularly within the domain of intellectual property (IP) law—with copyright law being especially impacted.

To address these evolving issues, the World Intellectual Property Organization (WIPO) has introduced a twofold categorization of AI-related creative outputs: "AI-generated works" and "AI-assisted works." The former denotes content autonomously produced by AI systems without any human intervention, while the latter encompasses works where human input plays a substantive role, with AI acting as a supportive instrument rather than the primary creator.

This conceptual distinction gives rise to intricate questions surrounding authorship and the eligibility of such works for copyright protection. The ability of AI to independently produce poems, artworks, and musical compositions challenges long-standing legal frameworks grounded in the notion of human authorship. As AI capabilities continue to advance, identifying a legally recognized author becomes increasingly difficult. Can works that potentially lack the hallmarks of human originality, creativity, or fixation qualify for protection under current copyright statutes?

Should these AI-generated works fall within existing copyright structures, the matter of ownership becomes pivotal. Given that AI does not possess legal personhood, it cannot hold rights in its own name. This raises questions as to whether rights should be allocated to the AI's programmer, its operator, or perhaps another stakeholder involved in its development or application. These uncertainties necessitate rigorous statutory interpretation and theoretical refinement.

Moreover, liability concerns add another layer of complexity. In scenarios where an AI system inadvertently or deliberately generates infringing material, how should responsibility be allocated? Should [5] moral rights—historically reserved for human creators—extend to outputs generated by AI? These unresolved questions highlight the urgent need for legal systems to establish principled, adaptive responses.

An equally pressing issue involves the data sets used to train AI systems. What legal standards should govern the acquisition, use, and protection of such data? To what extent can these concerns remain unaddressed without undermining the coherence and enforceability of copyright law itself?

As Kay Firth-Butterfield has emphasized, [5] "It is important that the various regulatory and Given the rapid and continuous evolution of AI technologies, there is an urgent need to reconsider existing governance structures, as relying on current regulatory frameworks may no longer suffice in keeping pace with these developments.

In light of this context, the following section of this study will explore the various challenges posed by AI advancements within the domain of intellectual property, with a particular emphasis on the implications for copyright law."

A. Artificial Intelligence and Intellectual Property

Before diving into copyright implications involving artificial intelligence (AI), it's important to first understand how AI intersects with the broader concept of intellectual property (IP). IP refers to intangible creations—ideas, designs, works of art, inventions—that can have commercial value. Legal systems typically grant the creators certain exclusive rights for a defined time period. These rights fall into two major categories: industrial property and copyrightable works.

[6] Industrial property is primarily concerned with protecting technical innovations and brand identity—like patents, trademarks, and industrial designs. These rights usually require formal registration. On the other hand, copyright protects original creative expressions such as literature, music, and visual art, and unlike industrial property, it typically doesn't require registration to be valid.

AI, as a field, deals with machines or software that can simulate aspects of human intelligence, such as decision-making and problem-solving. But intellectual property law has traditionally been based on the assumption that protected works come from human creators. This becomes complicated when machines start producing content that could arguably qualify for protection—raising the fundamental question: Can non-human entities generate intellectual property?

This debate centers on whether outputs from AI systems result from independent machine-based reasoning or are simply extensions of human input, such as programming and user commands. Developers write the underlying code, and users initiate commands, so attributing authorship to the machine itself is legally complex. However, as AI systems increasingly use machine learning and can adapt through experience—by processing visual data, speech, and large datasets—it's becoming harder to deny their creative capabilities.

A key example fueling this debate is the AI-generated artwork [7] *Portrait of Edmond de Belamy*, which sold at auction for $432,500. The artwork was entirely created by an AI system and had distinct characteristics not directly attributable to any single human. This led many to argue that AI-generated works deserve copyright protection and that legal frameworks should evolve to accommodate non-human creators.

Courts, however, have generally rejected this idea. In the well-known "Monkey Selfie" case, a U.S. court denied copyright protection for a selfie taken by a monkey, stating that non-human authors cannot claim copyright. This logic has been applied to AI as well, reinforcing the idea that legal authorship is strictly human.

That said, there are emerging exceptions. In a landmark decision, South Africa's patent office approved a patent listing an AI system—DABUS—as the inventor. The patent was for a novel food container design that used fractal geometry to improve interlocking and handling. This case highlights a growing recognition of AI's inventive potential and the need to revisit traditional concepts of authorship and ownership in IP law.

These cases, rather than resolving questions surrounding authorship and originality in the context of artificial intelligence (AI), have instead deepened the doctrinal and jurisprudential ambiguities within intellectual property (IP) law.

[8] Contemporary IP frameworks are fundamentally structured to promote innovation and creativity by conferring exclusive rights upon creators, thus facilitating both economic returns and moral recognition. From this standpoint, it becomes increasingly untenable to categorically exclude AI-generated works from protection, particularly when such works meet the functional and aesthetic thresholds of creativity. Accordingly, this inquiry turns to international regulatory perspectives, especially that of the World Intellectual Property Organization (WIPO), to assess the normative and practical viability of extending IP rights to non-human creators.

1) The Evolution of Artificial Intelligence within the Intellectual Property Paradigm

The theoretical and technological antecedents of artificial intelligence stretch back to early conceptualizations of machine cognition, with Alan Turing's formulation of the Turing Test marking a pivotal juncture in the discourse. From that moment onward, AI has transitioned from theoretical abstraction to a concrete force reshaping various domains, including the creation and dissemination of intellectual outputs.

[9] Modern AI systems—powered by breakthroughs in machine learning, neural networks, deep learning, and large-scale data processing—now possess capacities that not only simulate but, in some contexts, exceed human cognitive functions. These systems are capable of generating complex creative content autonomously, ranging from visual and musical compositions to literary works and performative acts. The breadth of AI's creative potential challenges long-held assumptions that human intentionality and consciousness are prerequisites for authorship under copyright law.

This technological evolution has catalyzed substantial friction between AI-generated content and conventional legal definitions of authorship and originality. National and international legal systems are now confronted with the imperative to revisit these foundational concepts. A particularly instructive instance is the ruling by the Nanshan District People's Court in Shenzhen, which affirmed the copyrightability of an article generated solely by an AI system, recognizing it as an original work under applicable legal standards.

Such judicial decisions underscore a broader exigency: the necessity for legal frameworks to adapt to a post-human creative landscape. As AI continues to expand its role in content creation, legislatures and courts must grapple with the ontological status of AI-generated works and whether current legal doctrines suffice to govern this emerging reality.

[10] The AI-generated work titled "Wrote A Novel" has been acknowledged as an original creation potentially qualifying for copyright protection. In a similar breakthrough, South Africa granted a patent to the AI system DABUS for designing a set of food containers based on fractal geometry. These containers, optimized for robotic handling and stacking, signify AI's advancing capacity to produce functional innovations.

AI's proliferation into various areas of law—including criminal, intellectual property, and emerging technologies—has sparked significant legal and philosophical debates about the regulation and recognition of outputs created by non-human agents.

3. Conclusion

This paper presented a comparative analysis on artificial intelligence and ownership issues.

References

[1] Draft Issues Paper on Intellectual Property Policy and Artificial Intelligence, 2019, published by WIPO.
Discussion on Intellectual Property and Artificial Intelligence, Second Session held on 13 December. Available at: https://www.wipo.int/edocs/mdocs/mdocs/en/wipo_ip_Ai_ge_20/wipo_ip_Ai_2_ge_20_1.pdf [accessed 13 July 2021].

[2] Resolution passed by the European Parliament, addressing a framework for civil liability in relation to artificial intelligence, submitted to the Commission in October 2020 [2020/2014(INL)]. Document available at: https://www.europarl.europa.eu/doceo/document/TA-9-2020-0276_EN.html [accessed 16 July 2021].

[3] Rory Cellan-Jones, 2014. "Stephen Hawking warns that AI could spell the end of humanity," BBC News, 2 December. Available at: https://www.bbc.com/news/technology-30290540 [accessed 23 January 2020].
Smart Meetings (2019). Microsoft introduces an AI-based assistant that organizes meetings automatically. Published online on 20 September by Smart Meetings. Retrieved from: https://www.smartmeetings.com/tips-tools/technology/95931/microsofts-Ai-powered-assistant-schedules-meetings-for-you [Accessed 23 January 2020].

[4] Erome Pesenti (2021). Announcement on the discontinuation of Facebook's automatic facial recognition feature in the new Meta update. Published 02 November. Source: https://about.fb.com/news/2021/11/update-on-use-of-face-recognition/ [Accessed 23 December 2021].

[5] Murat Kuzlu, Corinne Fair, & Ozgur Guler (2021). Examining how AI contributes to cybersecurity within the Internet of Things (IoT). Published in Discover Internet of Things on 24 February, Vol. 1, No. 1.

[6] Annette Ekin (2019). AI's potential role in combating climate change, along with concerns regarding its energy consumption. Horizon: The EU Research and Innovation Magazine, 12 September. Available from: https://ec.europa.eu/research-and-innovation/en/horizon-magazine/Ai-

can-help-us-fight-climate-change-it-has-energy-problem-too [Accessed 23 February 2021]

[7] Annette Ekin (2019). AI's potential role in combating climate change, along with concerns regarding its energy consumption. Horizon: The EU Research and Innovation Magazine, 12 September. Available from: https://ec.europa.eu/research-and-innovation/en/horizon-magazine/Ai-can-help-us-fight-climate-change-it-has-energy-problem-too [Accessed 23 February 2021]

[8] IBM (2021). An Analytical Perspective on the Deployment of Artificial Intelligence in Cybersecurity Frameworks. IBM Newsroom. Retrieved from https://www.ibm.com/in/en/security/artificial-intelligence [Accessed 23 February 2021].

[9] Metz, C. (2020). Generative Pre-trained Transformer 3 (GPT-3): A Paradigm Shift in Natural Language Processing and Autonomous Content Generation. The New York Times, 24 November. Accessible at https://www.nytimes.com/2020/11/24/science/artificial-intelligence-Ai-gpt3.html [Accessed 12 December 2020].

[10] McClain, D. L. (2006). The Supremacy of Artificial Intelligence in Strategic Cognition: A Historical Account of AI's Dominance Over Human Grandmasters in Chess. The New York Times, 5 December. Available at: https://www.nytimes.com/2006/12/05/crosswords/chess/05cndchess.html [Accessed 14 December 2020].