Ownership and IP Rights of AI-Generated Content

[1.]Khush Loriya , [2].Manas Aggarwal, [3]kavya Gupta, [4] Shruthi M N
[1,2,3] *UG Student, Computer Science Department, RV College of Engineering, Bengaluru, India*
[4]*Assistant Professor, Computer Science Department, RV College of Engineering, Bengaluru, India*

Abstract: **Artificial Intelligence (AI) has dramatically altered the landscape of content generation, creating challenges in clearly defining ownership and intellectual property (IP) rights. As AI systems increasingly produce creative and innovative outputs independently or with minimal human intervention, traditional frameworks of IP ownership face complex legal and ethical challenges. This journal explores existing literature, legal precedents, and current debates on IP ownership, proposes an analytical framework for evaluating AI-generated content, presents additional case studies, and suggests future directions for policy development.**

Index Terms **- Artificial Intelligence, Intellectual Property Rights, AI-Generated Content, Copyright, Patents, Legal Framework**

1. INTRODUCTION

Artificial Intelligence (AI) is no longer confined to algorithmic processing or data analysis. It now plays a central role in the creative industries, from generating music and fine art to writing books and designing innovative solutions. AI models such as GPT-4, Midjourney, DALL·E, and DABUS have demonstrated abilities that emulate and even surpass certain aspects of human creativity. This phenomenon has led to a transformative shift in how we understand the origin and ownership of creative works.

At the heart of this transformation is a set of urgent legal and philosophical questions. Who owns a work created by AI? Can AI be recognized as an author or inventor? Should ownership be attributed to the user, developer, or perhaps the AI system itself? These questions are not merely academic—they carry substantial ramifications for copyright enforcement, patent law, innovation incentives, and the rights of human creators. As AI continues to reshape the contours of creative labor, legal systems around the world are grappling with how to adapt intellectual property frameworks to this new reality. This paper delves into these concerns, offering a multi-jurisdictional perspective and proposing forward-looking solutions.

2. LITERATURE SURVEY

A growing body of legal scholarship has emerged to address the intersection of artificial intelligence and intellectual property rights. Gervais (2019) argues that current IP regimes are based on outdated anthropocentric models and must be reformed to accommodate AI as a partial or full contributor to creative works. His work highlights the philosophical and legal complexities of attributing authorship to non-human agents.

Abbott (2020), in his foundational book *The Reasonable Robot*, explores the structural limitations of legal systems when dealing with AI-generated content. He suggests that reform is inevitable and proposes various models for reconciling existing law with technological evolution.

Samuelson (2021) critiques current copyright laws for failing to provide clear guidelines on human-AI collaboration. She advocates for a new legal category—distinct from traditional copyright and patent law—that can effectively cover AI-generated content while maintaining incentives for human creativity.

Liu and Zohar (2022) approach the issue from a technological and international law standpoint. They examine discrepancies across jurisdictions and propose a harmonized framework that would categorize AI-generated content into tiers based on the degree of human involvement. Their work is particularly influential in policy circles for its pragmatic approach.

Additional contributions include research from the World Intellectual Property Organization (WIPO), which has hosted multiple dialogues on AI and IP, suggesting the need for global standards. Articles in the *Journal of Intellectual Property Law & Practice*

and the *Harvard Journal of Law & Technology* consistently highlight the lack of consensus on key issues such as inventorship, liability, and enforceability.

Collectively, the literature reveals consensus on two key points: (1) existing IP laws are ill-equipped to handle AI-generated works, and (2) a hybrid legal model or sui generis system may be necessary to address the evolving landscape.

3. CURRENT LEGAL FRAMEWORK

The current legal framework surrounding intellectual property rights (IPR) was fundamentally designed with human creators and inventors in mind. As a result, AI-generated works often fall into legal voids where traditional laws provide limited or no protection.

3.1 Copyright Law:

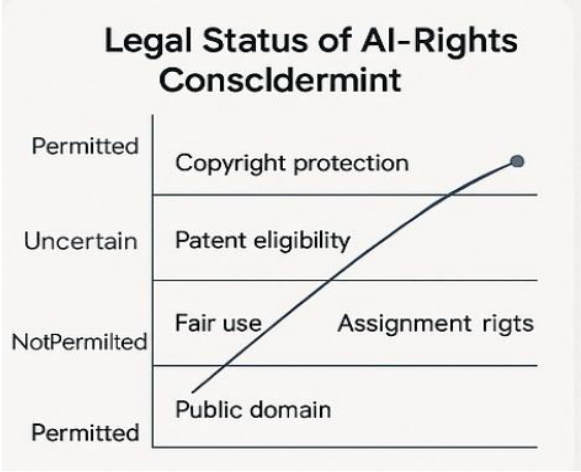
In jurisdictions such as the United States, United Kingdom, and the European Union, copyright protection is predicated on the requirement of human authorship. The U.S. Copyright Office has issued formal guidance denying copyright registration to works that lack human creative input. In the U.K., Section 9(3) of the Copyright, Designs and Patents Act 1988 allows for limited protection of computer-generated works by assigning authorship to the person who undertakes the arrangements necessary for creation. However, this approach is still human-centric and does not recognize the machine as a legal creator.

3.2 Patent Law:

Patent systems are more restrictive, requiring inventors to be natural persons. Major IP jurisdictions, including the United States Patent and Trademark Office (USPTO), the European Patent Office (EPO), and the UK Intellectual Property Office (UKIPO), have explicitly rejected AI-generated patent filings listing AI systems (e.g., DABUS) as inventors. The rationale lies in the requirement of inventive step and the legal personhood of the inventor, both of which exclude machines.

3.3 Trade Secret and Trademark Law:

While less directly impacted, these areas of IP law present subtler issues. Trade secrets may protect certain AI model architectures or training data, but not the generated output itself unless closely tied to business practices. Trademark law may intersect with AI where logos or slogans are autonomously generated, though the registration still requires a human applicant.



3.4 Emerging Doctrines and Soft Law Instruments:

Some jurisdictions are exploring sui generis protections for AI-generated content. For instance, Singapore's IP Strategy 2030 outlines mechanisms to evaluate non-traditional forms of creativity, and China has introduced limited protections under administrative guidance. International bodies such as WIPO are initiating dialogues to develop non-binding instruments or model laws that could guide harmonized regulatory responses.

In sum, the existing legal framework reflects a deeply anthropocentric tradition. As AI systems increasingly demonstrate autonomous or semi-autonomous creativity, the pressure to adapt legal definitions of authorship, inventorship, and ownership will continue to intensify.

4. CHALLENGES AND DEBATES

The emergence of AI-generated content has sparked a range of legal, philosophical, and economic debates. These challenges are rooted in the disruption of traditional IP paradigms and highlight the need for a more nuanced understanding of creative agency.

4.1 Defining Authorship and Inventorship:

The primary challenge lies in determining the appropriate attribution for AI-generated works. Legal

frameworks globally emphasize human authorship and inventorship, making it unclear who—if anyone—owns the output of an autonomous AI. Proposals vary from crediting the AI's developer, the end user, or establishing a shared ownership model based on each stakeholder's contribution. There are also fringe debates about granting AI systems limited legal personhood, though these remain highly controversial.

4.2 Assessing Originality and Inventiveness:

Ownership and IP Rights Considerations

Factor	Key Issues
Copyright law	Human authorship requirement
Patent law	Inventorship criteria
User agreement	Assignment of rights
AI's contribution	Level of originality

Many legal systems require that a work be original or inventive to qualify for IP protection. However, AI systems often generate outputs by remixing existing data or drawing upon training sets that include copyrighted materials. This raises concerns about whether such works truly meet originality standards or merely constitute algorithmic plagiarism.

4.3 Liability and Infringement:

Infringement liability becomes especially complicated when AI-generated content violates existing copyrights, patents, or trademarks. Questions arise over who should bear responsibility: the developer who trained the AI, the user who prompted the generation, or the entity deploying the system. The decentralized nature of AI usage makes enforcement and attribution particularly challenging.

4.4 Economic Displacement and Market Fairness:

There are growing concerns about the economic implications of AI-generated content. Human creators may be displaced as AI systems reduce the cost and time required for content production. Simultaneously, monopolization by large tech firms with access to proprietary AI tools could exacerbate inequalities in creative industries, limiting opportunities for independent artists and inventors.

4.5 Ethical and Moral Rights Considerations:

Beyond legalities, moral rights—such as the right to attribution and integrity of a work—pose unique challenges. Should users be required to disclose AI involvement in their creative processes? Is there an ethical obligation to recognize human versus machine authorship, especially in works that imitate human expression?

4.6 Jurisdictional Conflicts and Enforcement:

Given the global nature of AI technologies, jurisdictional conflicts often arise. An AI-generated work created in one country may be disseminated or infringed in another with different legal standards. This complicates enforcement and raises the necessity for international harmonization.

Addressing these challenges requires interdisciplinary solutions—legal reform, technical transparency measures, and ethical guidelines—to ensure that AI-generated content contributes positively to innovation while protecting the interests of human creators.

5. CASE STUDIES AND INTERNATIONAL PERSPECTIVES

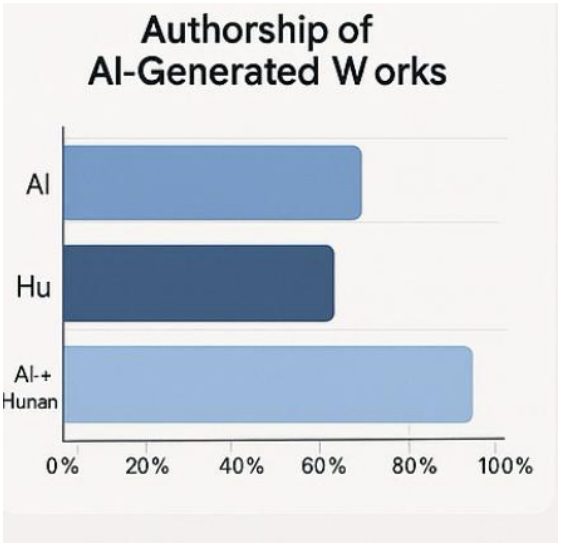
5.1 Naruto v. Slater (U.S.):

In this landmark 2018 U.S. case, a macaque monkey named Naruto took a series of selfies using a photographer's unattended camera. PETA filed a lawsuit on behalf of the monkey, claiming copyright ownership of the images. The Ninth Circuit Court of Appeals ruled that non-human animals lack statutory standing to sue under the Copyright Act. While the case did not involve AI, it established a critical precedent: entities without legal personhood—such as animals or AI—cannot be considered authors under current U.S. copyright law. This decision is frequently cited in discussions about whether AI systems can hold intellectual property rights.

5.2 Thaler v. Comptroller-General of Patents (UK):

Stephen Thaler submitted patent applications in several jurisdictions, listing his AI system, DABUS, as the inventor of two novel products—a food container and a flashing beacon. The UK Intellectual Property Office (UKIPO) rejected the application,

citing the requirement that inventors must be natural



persons. The case reached the UK Court of Appeal, which upheld the decision, asserting that current patent law does not accommodate non-human inventors. The case has had similar outcomes in the United States, Europe, and Australia, although South Africa controversially accepted the application, making it the first country to recognise an AI as an inventor. Thaler's legal campaign has sparked global debate over the meaning and requirements of inventor ship.

5.3 Zarya v. Midjourney (U.S.):

A recent legal challenge involved an artist who used Midjourney, an AI art generator, to create a series of illustrations for a graphic novel. The U.S. Copyright Office initially granted limited protection for the text and the arrangement of images but explicitly denied copyright over the AI-generated images themselves, arguing they lacked sufficient human authorship. This case highlights the growing complexities in registering collaborative works where human creativity is entangled with machine-generated elements.

5.4 Global Policy Variances:

- European Union: Maintains a strong human-centric authorship model but is actively researching AI-specific IP reforms through the European Commission and the EUIPO.
- China: While traditionally conservative in IP matters, China has introduced guidelines that allow for limited copyright protection if substantial human input is demonstrated in the creative process.
- Japan and South Korea: Are exploring frameworks for hybrid authorship models, particularly in the context of manga, animation, and digital design industries.
- Singapore: Through its IP Strategy 2030, Singapore is conducting experimental regulatory sandboxes to test new approaches to AI and IP, including the viability of algorithmic authorship attribution.

These case studies collectively illustrate the fragmented and evolving landscape of IP rights for AI-generated content. They reveal a shared recognition of the legal vacuum in this area and emphasize the need for harmonized and adaptive policy responses across jurisdictions.

6. PROPOSED ANALYTICAL FRAMEWORK FOR EVALUATING AI-GENERATED CONTENT

As artificial intelligence continues to evolve from a mere tool into a collaborator in the creative process, questions of ownership, credit, and accountability grow more pressing. To navigate this complex new reality, we propose a structured analytical framework that can serve as a guide for stakeholders—policymakers, developers, creators, and legal experts alike. This framework is built on three key layers: Categorisation, Attribution, and Rights Governance.

6.1 Categorisation of AI-Generated Content

The starting point in understanding rights over AI-generated content is determining *how* the content came into existence—specifically, the level of human involvement. Not all AI outputs are created equally, and treating them as such creates legal confusion and ethical dilemmas. We propose a three-tiered categorisation system:

- Fully Autonomous Content: These are works produced entirely by AI with no real-time human guidance—just initial algorithmic design. For instance, an AI composing original music without any human-tuned inputs would fall here. These outputs push the boundaries of current IP law, often falling into legal grey zones where human authorship is entirely absent.

- Semi-Autonomous Content: Here, humans are involved, but only minimally—providing prompts, adjusting parameters, or setting up basic instructions. Think of a short story generated by a language model based on a few user-supplied themes. The human sets the stage; the AI performs.
- Collaborative or Assisted Content: This is the most human-driven category, where AI is used more like a co-creator or assistant. A designer might use an AI-generated sketch as a springboard and then heavily modify or reinterpret it. In such cases, traditional authorship claims remain more justified.

The deeper the human touch, the more comfortably existing IP regimes apply. Conversely, the more autonomous the AI, the harder it becomes to assign legal authorship.

6.2 Attribution and Ownership Models

Once we understand the level of human input, the next question is: *Who owns what?* Attribution isn't just about credit—it's about legal rights, economic benefit, and accountability. Here are the key ownership models:

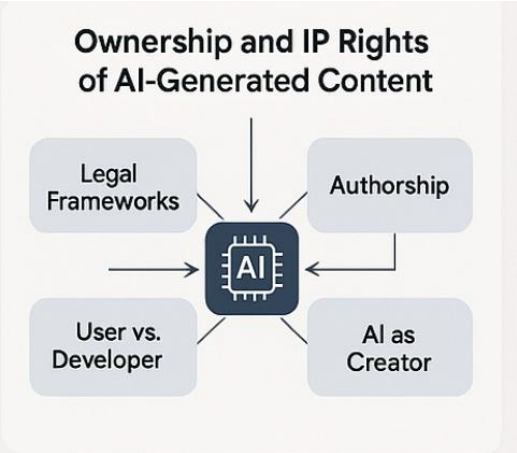
- Developer-Based Ownership: Some argue that the creators of the AI system itself deserve rights to its outputs, especially in cases of fully autonomous generation. While this may make sense in theory, it risks giving developers excessive control in situations where users drive the creative outcome.
- User-Based Ownership: In prompt-driven scenarios—where users clearly initiate and influence the creative process—it feels more natural to recognize the user as the rights-holder. This aligns with the idea of users being "authors by command."
- Joint Ownership Model: When both parties play meaningful roles—the developer in building the creative AI, and the user in steering its output—shared ownership may be the fairest solution. This model suits semi-autonomous and collaborative content best.
- License-Based Attribution: Many AI companies prefer a more pragmatic solution: they retain full ownership and instead offer users licenses to use, adapt, or even commercialize the outputs, under specified terms. This is already common with platforms like Adobe Firefly or OpenAI's tools.

Whatever model is chosen, it must be clearly articulated through contracts, terms of service, or regulation. Ambiguity breeds conflict.

6.3 Rights Governance and Policy Design

Ownership is only part of the equation. We must also consider how rights are administered, enforced, and safeguarded. This layer addresses the legal and infrastructural mechanisms necessary for a sustainable future.

- Contractual Agreements: Terms of Service (ToS) and End-User License Agreements (EULA) are crucial instruments. They should specify how rights are distributed, what users can and can't do with AI-generated content, and who is responsible for potential violations.
- Attribution Standards and Metadata: Embedding metadata—like the name of the AI model, date of generation, and level of human input—into AI outputs can promote transparency and accountability. It also helps in tracing provenance during legal disputes.
- Tiered Protection System: Not every AI-generated work should receive the same protection. A tiered model could grant:
  - Full IP rights for human-led creations.
  - Limited protection or new "sui generis" rights for collaborative efforts.
  - Minimal or public domain status for fully autonomous works.
- Public Domain Defaults: Some jurisdictions might opt to automatically place fully AI-generated works in the public domain, to prevent monopolization and maintain a level playing field.
- AI Attribution Registries: A novel idea is the creation of registries—possibly run by governments or international bodies—where creators can voluntarily log AI-generated



works. These registries could record the model used, version, human input, and authorship claims.

7. ETHICAL CONSIDERATIONS

Legal rules can only go so far. As AI begins to mimic or even outperform human creativity, we must also confront the ethical dimensions of authorship, attribution, and value.

7.1 Transparency and Accountability

Audiences have a right to know whether content is AI-generated. This is about more than fairness—it's about trust. Every AI-generated output should include:

- Clear indication of AI involvement.
- Disclosure of the model or algorithm used.
- The extent and nature of human input.

Such transparency can help combat misinformation, enforce IP claims, and prevent deceptive practices. Just as importantly, we need accountability structures to determine responsibility when AI-generated content causes harm or violates rights.

7.2 Economic Fairness and Labor Displacement

As machines take over tasks once reserved for artists, writers, and musicians, we face difficult questions:

- How do we protect livelihoods in creative industries?
- Should there be compensation mechanisms—like royalties or taxes on commercial AI content—to support displaced creators?

AI lowers barriers to entry, which is empowering. But without safeguards, it could also deepen inequality and erode the value of human talent.

7.3 Human Dignity and Moral Rights

Finally, we must not overlook the emotional and cultural aspects of authorship. In many legal traditions, creators have "moral rights" to be recognized and to protect the integrity of their work. As AI takes center stage, we risk diluting this deeply human connection between creator and creation.

8. RECOMMENDATIONS AND POLICY IMPLICATIONS

To respond proactively, we propose the following roadmap for policymakers, global agencies, and industry leaders:

8.1 Legal Reform

- Update definitions of authorship, originality, and inventorship to reflect AI's role.
- Create sui generis rights for AI-generated content where traditional IP fails.
- Define thresholds of human input required for standard protection.

8.2 International Harmonization

- Promote WIPO-led guidelines for global consistency.
- Avoid jurisdiction shopping by ensuring coherent international standards.

8.3 Industry Best Practices

- AI providers should adopt clear ethical policies outlining user rights and responsibilities.
- Require model and training data transparency to ensure fairness.
- Mandate attribution metadata in AI outputs.

8.4 Education and Capacity Building

- Train creatives, lawyers, and engineers to understand AI's role in content generation.
- Encourage cross-disciplinary collaboration between technologists, ethicists, and legal experts.

9. CONCLUSION

We are entering an era where machines not only assist creativity—they actively *create*. This shift challenges long-held beliefs about authorship, originality, and ownership. Our legal systems, still rooted in human-centric paradigms, are struggling to keep pace.

This paper offers a practical framework to categorize AI-generated content, assign appropriate ownership, and develop governance structures that are fair, adaptive, and transparent. But beyond the laws, we must also think about the kind of creative future we want—one where technology enhances human expression, rather than replaces or undermines it.

The real challenge isn't whether AI can create—it's whether we can design the rules, norms, and ethics to live with its creations responsibly.

REFERENCES

[1] WIPO, "Revised Issues Paper on Intellectual Property Policy and Artificial Intelligence," World Intellectual Property Organization, Geneva, Switzerland, May 2021. [Online]. Available: https://www.wipo.int/edocs/mdocs/mdocs/en/wipo_ip_ai_ge_21/wipo_ip_ai_ge_21_1_rev.pdf

[2] U.S. Copyright Office, "Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence," Mar. 2023. [Online]. Available: https://www.copyright.gov/ai/

[3] M. Kaminski and G. Urban, "Authorship in the Age of Generative AI: Legal, Ethical, and Theoretical Perspectives," *Harvard Journal of Law & Technology*, vol. 37, no. 2, pp. 255–290, 2023.

[4] T. Syed, "The Case for Sui Generis Rights in AI-Created Works," *Journal of Intellectual Property Law & Practice*, vol. 18, no. 1, pp. 17–25, Jan. 2024.

[5] European Commission, "Artificial Intelligence Act – Proposal for a Regulation Laying Down Harmonized Rules on Artificial Intelligence," COM/2021/206 final, Apr. 2021. [Online]. Available: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0206

[6] B. McLaughlin, "Attribution, Accountability, and Algorithms: Governance in the Age of AI-Created Art," in *Proc. 2023 Conf. on AI Ethics and Society*, Montreal, QC, Canada, 2023, pp. 113–120.

[7] D. Johnson and R. Simpson, "When Machines Become Creators: An Empirical Analysis of Copyright Claims on AI-Generated Content," *Berkeley Technology Law Journal*, vol. 38, no. 1, pp. 102–143, 2024.

[8] OpenAI, "Usage Policies and IP Rights for Generated Content," OpenAI Documentation, Accessed: Jun. 10, 2025. [Online]. Available: https://openai.com/policies/usage-policies

[9] Adobe Inc., "Terms of Use – Adobe Firefly," Adobe, Accessed: May 30, 2025. [Online]. Available: https://www.adobe.com/legal/terms.html.[Online].21(3). pp. 876-880. Available: http://www.halcyon.com/pub/journals/21ps03-vidmar