



“AI AND INTELLECTUAL PROPERTY IN U.S. LAW: AUTHORSHIP, OWNERSHIP, AND THE FAIR USE DEBATE IN MACHINE LEARNING”

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***Abstract** As generative artificial intelligence (AI) becomes integrated into creative, commercial, and technical workflows, longstanding assumptions in U.S. copyright law face unprecedented pressure. Two questions dominate contemporary debate: (1) Who owns AI-generated outputs and (2) Do AI companies infringe copyright when they train models on publicly available or copyrighted data? Although courts, agencies, and industry actors are racing to establish clarity, the legal landscape remains unsettled. This Article explains current doctrine, analyzes emerging case law, and identifies the likely direction of U.S. IP policy. It concludes with practical guidance for creators, businesses, and policymakers.*

***Keywords** Artificial intelligence (AI); Generative AI; Intellectual property law; U.S. Copyright Law; Human authorship; Copyright Office policy; Burrow-Giles v. Sarony; Thaler v. Perlmutter; Machine learning; Fair use doctrine; Training data; Creative industries; AI-generated content; Originality requirement; Public domain; Transformative use; Innovation policy; Data scraping; Copyright infringement; AI regulation.*

Introduction

Generative AI systems—large language models (LLMs), text-to-image models, and multimodal architectures—now produce human-like creative works at scale. These outputs challenge foundational principles

of copyright law, which traditionally protects human authorship, not machine-generated works. At the same time, AI developers rely on enormous datasets, often composed of copyrighted material scraped from the internet without express permission. This practice has provoked litigation from artists, journalists, software developers, and rights-holders across industries.

The U.S. Copyright Act of 1976¹ did not contemplate autonomous computational creativity or machine-learning training processes. Courts have attempted to apply existing doctrine to new realities, but the results vary and have not yet produced a unified theory of AI authorship or AI training under copyright law. For now, both AI developers and creators operate within a framework of partial guidance, evolving jurisprudence, and significant legal uncertainty. This Article analyzes that evolving framework, beginning with the longstanding requirement of human authorship and progressing to the controversial question of whether AI training qualifies as fair use. It argues that although existing doctrine offers valuable principles, legislative or administrative intervention will likely be necessary to achieve clarity, predictability, and fairness.

Copyright's Foundational Principle: Human Authorship.

The Copyright Act grants protection to “original works of authorship fixed in any tangible medium of expression.” While the statute does not define “author”, longstanding doctrine—and administrative practice—interpret authorship to require **human creative input** and **original intellectual conception**. First here, it is very important to mention the case of *Burrow-Giles Lithographic Co. v.*

¹ <https://www.copyright.gov/title17/>

Sarony (1884).² This case was about a photographer named Napoleon Sarony who took a famous portrait of the writer Oscar Wilde. A company, Burrow-Giles, reproduced the photograph without Sarony's permission. The question went to the Supreme Court: Can a photograph be protected by copyright? The Court said **yes**, but only because the photograph showed human creativity. Sarony had made original decisions about: the pose of the subject, the lighting in the studio, the composition and arrangement of the image.

The key idea was that copyright protects works that result from human thought and creativity, not just any mechanical or automatic process. If a machine or camera alone took the picture without creative human input, copyright would not apply. Why it matters today: This case sets the foundation for modern copyright law. When we think about AI-generated works:

- Only works with human involvement can be copyrighted.
- Fully AI-created works, where a human only gives a short prompt, cannot get copyright.
- Human creativity—editing, arranging, or guiding AI—is what counts for copyright protection.

US's perspective on AI content

The U.S. Copyright Office says that **AI-generated works without human creativity cannot be copyrighted**. A work can only be protected if a human **adds real creative input**, like editing, arranging, or designing the output. Anyone applying for copyright registration must

² <https://supreme.justia.com/cases/federal/us/111/53/>

explain **what role AI played**. This position reflects the long-standing principle in U.S. copyright law that authorship must be human. Courts have repeatedly emphasized that the Copyright Act protects “original works of authorship,” and originality requires independent human creative judgment. Because AI systems generate outputs through statistical patterns learned from training data rather than human intellectual conception, the resulting material is not considered authored by a person. Recent decisions, including *Thaler v. Perlmutter* (D.D.C. 2023),³ reaffirm that works “created solely by artificial intelligence” fall outside the scope of copyright protection.

As a result, applicants must clearly separate which elements were created by a human and which were produced by an AI model. The U.S. Copyright Office now requires disclosures identifying AI-generated portions and limiting protection only to the human-authored contributions. For example, if a person uses an AI system to produce a draft image but then substantially modifies it through creative changes—such as altering composition, adding new expressive elements, or making stylistic decisions—those human contributions may be eligible for copyright, even though the underlying AI output is not.

This position reflects not only a legal principle but also a response to how rapidly AI-generated content is being adopted in the United States. According to a nationally representative survey of U.S. adults aged 18–64, 39.4% reported using generative AI as of August 2024. Among employed respondents, 28% used generative AI at work, with 24.2% using it at least weekly and 10.6% using it every workday. Outside of

³ <https://www.wipo.int/wipolex/en/judgments/details/1840>

work, usage was also significant: 32.7% of respondents used generative AI in non-work settings, though only 6.4% used it daily. Moreover, adoption is accelerating. A more recent survey shows that by August 2025, 54.6% of U.S. adults (age 18-64) had used generative AI in some form—marking a 10 percentage-point increase in 12 months. In the consumer space, S&P Global reported that 46% of U.S. internet adults were using at least one generative AI tool as of late 2025, nearly doubling from about 24% in early 2024⁴. These numbers underscore just how widespread AI is becoming: in creative industries, 83% of professional creators say they already use generative AI tools in their work. In marketing specifically, adoption is even more dramatic: a 2025 survey by the American Marketing Association found that nearly 90% of marketers have used generative AI, and 71% do so at least weekly, with almost 20% using it daily. From a copyright policy perspective, these statistics put real pressure on legal institutions: as more creators, professionals, and companies rely on AI to generate content, the distinction between purely AI-generated output and human-authored creative work becomes ever more important for determining who can claim exclusive rights. The U.S. Copyright Office’s requirement that applicants clearly identify the human contribution in a work is therefore rooted not just in theory, but in the practical reality that generative AI is now deeply embedded in creative workflows.

Fair Use Debate in Machine Learning

The question of whether using copyrighted works to train AI models qualifies as “fair use”⁵ has become one of the most contested issues in

⁴ https://www.nber.org/system/files/working_papers/w32966/w32966.pdf?utm_source

⁵ <https://www.law.cornell.edu/uscode/text/17/107>

U.S. copyright law. (1) Under the Copyright Act, fair use depends on four factors, including the purpose of the use and its effect on the market. AI developers argue that training is transformative, because models do not store or reproduce the original works but instead learn statistical patterns. (2) Rights holders disagree, claiming that training uses millions of protected works without permission and may reduce demand for human-created content. This concern is growing as generative AI expands—by 2025, more than 50% of U.S. adults and 90% of marketing professionals reported using AI tools, increasing fears that AI-generated outputs compete with original works. (3) Courts have not yet given a definitive nationwide ruling, but early cases show a split. Some judges suggest that training may be fair use so long as AI outputs do not reproduce protected content, while others emphasize the commercial nature and massive scale of data ingestion. (4) The debate also raises broader policy questions about innovation, access to data, and economic fairness. If training is not fair use, the AI industry may require new licensing systems or large-scale collective rights management. If training is fair use, creators may need new legal or economic protections to prevent their works from being devalued. Because of these unresolved questions, the fair use issue remains one of the central legal challenges in the regulation of machine learning.

The Policy Rationale Behind the Current U.S. Approach

The United States follows a cautious approach to AI-generated content because copyright law is designed to protect human creativity, not machine-produced material. (1) Copyright exists to reward human

authorship, a principle recognized since *Burrow-Giles v. Sarony* (1884)⁶, and the law requires works to contain human judgment and originality. (2) Denying copyright protection to pure AI output also prevents the creation of monopolies over machine-generated content. If companies could own everything their AI systems produce, they could control massive volumes of material instantly, especially as AI adoption grows—by 2025, more than 54% of U.S. adults and 83% of creative professionals reported using generative AI tools. (3) The government also aims to keep the public domain open so that society can freely use and build upon AI-generated content without legal barriers. (4) Protecting AI output could flood the market with low-effort, automatically produced works, weakening the value of legitimate human creativity. (5) Finally, AI systems lack consciousness, intent, and moral rights, meaning they cannot meet the legal definition of an “author.” For these reasons, the U.S. Copyright Office and federal courts consistently hold that only the human contributions to an AI-assisted work can receive copyright protection.

Conclusion

The rapid rise of generative AI has forced U.S. copyright law to confront questions it was never designed to answer. Although the Copyright Act of 1976 remains grounded in the principle of human authorship, modern creative processes increasingly involve tools that can produce complex text, images, and audio with minimal human input. Courts and the Copyright Office have responded by reaffirming a consistent rule: only human creative contributions can receive copyright

⁶ <https://supreme.justia.com/cases/federal/us/111/53/>

protection, while purely machine-generated content belongs in the public domain. This approach protects the integrity of copyright doctrine, prevents monopolization of automated output, and ensures that creativity—rather than computation—remains at the center of U.S. copyright policy.

At the same time, unresolved issues continue to shape the national debate, especially around the fair use status of training data, the threshold for meaningful human involvement, and the risk that AI systems could displace human creators. With more than 50% of U.S. adults and over 80% of creative professionals now using generative AI tools, these questions carry significant economic and cultural impact. Future legislation or judicial decisions will need to balance innovation with fairness, encourage responsible AI development, and clarify the rights of creators in an increasingly automated environment. What remains clear is that the intersection of AI and copyright will continue to evolve, and the law must adapt thoughtfully to preserve both technological progress and human artistic expression.

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