

Developing an IP Strategy for Protecting AI Assets and Outputs in an Evolving World

By Brian W. Nolan and Megan P. Fitzgerald

apid advances in artificial intelligence (AI) Ktechnology, fluid market dynamics as new AI models become available, and a change in governmental viewpoints on AI have created an evolving AI landscape. This evolution is forcing a rethinking of existing intellectual property protection regimes, i.e., trade secrets, copyrights, and patents. Developers and deployers of AI technology will have to consider which of these offer the best protection for the AI models and their outputs and whether other protections in the form of contractual limitations are required to supplement the desired intellectual property protection. Developers and deployers will have to also consider the liabilities that may arise from running afoul of third-party intellectual property. This article discusses developments pertinent to AI in trade secrets, copyrights, and patents, and provides insight into how to integrate these developments into AI strategies.

IN THE NEAR TERM, TRADE SECRETS SUPPLEMENTED BY CONTRACTUAL PROVISIONS MAY OFFER THE BEST AVENUE OF PROTECTION

Many IP strategies focus on obtaining copyrights and patents to protect assets, because the registration of a copyright or grant of a patent provides a public recognition of a property right. But this comes at a cost of time and expense—factors that may be paramount in the fast-moving world of AI development. By comparison, trade secret protection offers an easier path to obtaining protection, because government approval is not required. Instead, federal and state trade secret statutes place the ability to maintain trade secret protection in the hands of the AI developers or deployers. Trade

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secret protection arises when an owner takes reasonable steps to protect information that derives independent economic value from not being generally well known or readily ascertainable through proper means.¹ The information can be in any form or any type.²

The breadth of information that trade secret protection encompasses affords developers and deployers the opportunity to protect aspects of AI for which patent or copyright protection may be illsuited. This may include algorithms, model parameters such as number of nodes and weight values, and datasets selected for training, validation, and testing. These categories could run afoul of patent eligibility subject matter requirements and the creativity requirement of copyright.³ It will be important to consider whether the statutory requirements to obtain a patent or copyright will likely prevent their issuance, because the necessary disclosure of information during the patenting or copyright application process is contrary to the requirement to take reasonable steps to maintain the confidentiality of the information to establish a trade secret.4

Another benefit of trade secrets compared to copyrights and patents is clarity of ownership.⁵ Copyrights and patents vest ownership in authors and inventors, respectively. But the use of AI to develop information pertinent to the subject matter of the copyright or patent application may cloud the authorship and inventorship analyses. Ownership of a trade secret is derived based upon lawful possession of the information, as opposed to the manner by which the information was created.⁶ This avoids the ownership concerns that could arise if patent or copyright protection is sought.

A noted limitation of trade secrets is that they only provide protection against a competitor that acquires the trade secret by "improper means." Statutes define "improper means" as including "theft, bribery, misrepresentation, breach or inducement of breach of a duty to maintain secrecy, or espionage through electronic or other means."

Recent events show that the term may also encompass activities, such as "scraping" or "prompt injection," that appear less nefarious than the terms recited in the statute.

DeepSeek's new AI model, which purportedly costs much less to train compared to leading models, sent shockwaves through the stock markets and resulted in about a trillion dollar combined loss in the value of key AI companies. A few days after the release of DeepSeek, one of these leading companies questioned whether DeepSeek used data from its model to train the newly released DeepSeek model. The company had noticed accounts believed to be associated with DeepSeek "scraping," i.e., bombarding, its AI model with millions of questions to obtain responses that would allow DeepSeek to access the underlying data associated with its model. It has been speculated that DeepSeek used this data to train the new version of its model. While the point of an AI system is to provide information in response to prompts, recent precedent has concluded that use of computer "scraping" to obtain more information than a human can obtain amounted to "improper means" in supporting a finding of trade secret misappropriation.8

The potential for an AI company to raise trade secret allegations based upon accessing an AI model's proprietary data is not hypothetical. OpenEvidence, Inc., has filed a complaint alleging trade secret misappropriation by Pathway Medical by "manipulat[ing] the OpenEvidence system into divulging its foundational code, both overtly and surreptitiously." OpenEvidence alleges that the defendants subverted safeguards by offering a series of questions that it described as "prompt injection" hacking to obtain "the set of instructions that define how the [OpenEvidence] AI model behaves and responds," i.e., the large language model's underlying algorithms. 10 OpenEvidence further alleges that defendants accessed the OpenEvidence system in violation of OpenEvidence's terms of use. 11 A decision in this case may provide insight into the scope of "readily ascertainable," "reverse engineering," and "improper means" when dealing with generative-AI models designed to provide information in response to queries, and what impact the potential violations of a model's terms of use has on the answers to these questions. It may further provide rulings that offer

clarity on reasonable steps to protect proprietary information associated with an AI model.

A distinction often raised when comparing a trade secret to a patent is a patent's ability to thwart competition from an independently developed product. But this may be a distinction without a difference when considering certain AI inventions. The black-box nature of AI models could limit the ability of a patentee to develop the reasonable basis required by a United States District Court before asserting patent infringement against an independently developed model. If a patentee does not understand how a model operates, it may need to show that a developer copied the patentee's technology. In certain instances, a patent owner may need to identify third-party access to the patent owner's information to provide a basis to allege patent infringement akin to what would be required to assert trade secret misappropriation.

A final consideration of the benefits of trade secrets for AI is understanding whether an owner can define its trade secret with reasonable particularity. As trade secrets do not include a set of claims like patents, courts have adopted a requirement that the owner of a trade secret define the trade secret at the outset of a litigation. 12 The definition must be sufficient to inform the defendant of what information is at issue. "Merely describ[ing] the end results of or functions performed by the claimed trade secrets" may not suffice. 13 This may create issues with describing the trade secrets associated with an AI model, because a court may find recitation of general terms like "artificial intelligence," "machine learning," "proprietary software," "algorithm," or "model" do not provide a defendant notice of the information alleged to have been misappropriated.

Thoughtfully crafted contracts and terms of use may provide a path to meet the obligation to show the existence of trade secrets. Requiring users to agree to contracts or terms of use that explain that the various AI components such as the algorithms, system prompts, and training data compilation are confidential and have value because of that status may be persuasive in a dispute if the defendant asserts the plaintiff has not provided notice of the actual trade secrets. These documents may also identify activities that are forbidden, e.g., scraping or prompt injection, to show that the competitor

used "improper means" to acquire the information. In contracts, an entity may consider whether the inclusion of a non-compete provision and a provision prohibiting reverse engineering are feasible.

AI RAISES COPYRIGHT QUESTIONS WITH BOTH THE POTENTIAL TO PROTECT AI-RELATED CONTENT AND POTENTIAL INFRINGEMENT WHEN DEVELOPING AN AI MODEL—BUT THE USCO AND COURTS ARE BEGINNING TO ANSWER THE OUESTIONS

Copyright issues from a protection and infringement perspective have been at the forefront of the intersection of AI and IP. The United States Copyright Office (USCO) has issued several reports on the former, explaining that human authorship remains the crux of copyrightability and the protections it affords. This position is consistent with U.S. court precedent, including a recent decision that upheld a USCO denial of copyright registration to a visual work created solely by an artificial intelligence program. ¹⁴The USCO also explained that, at present, prompts alone do not meet the requirements of authorship to support registration of a copyright, because they "do not provide sufficient human control to make users of an AI system the authors of the output." 15 But the USCO recognized the evolving nature of AI; it did not foreclose that "[t]here may come a time when prompts can sufficiently control expressive elements in AI-generated outputs to reflect human authorship."16 It should be appreciated that not all copyright authorities align on whether AI-generated materials qualify for copyright protection. Notably, the Beijing Internet Court in China ruled that AI-generated works are original and constitute graphic works that reflect authorship sufficient for registration.¹⁷

But, all is not lost for obtaining U.S. copyright protection for works that include some AI-generated material. The USCO acknowledges that copyrightability may arise for aspects of a work that include a sufficient human contribution. ¹⁸ This may include human alteration of AI-generated materials. ¹⁹ It also may include compilation work such as source code generation. Code writers often use AI to assist in drafting portions of a code. ²⁰ While the portion generated by AI is not copyrightable, the portions generated by the human coder should be eligible for copyright protection. ²¹

Much ink has been spilled on AI and copyright infringement. This is a result of the concerns of content owners that AI training protocols infringe copyrights by ingesting and generating copies of protected material without permission. For generative AI, there are additional concerns that the output of those models may result in acts of copyright infringement by reproducing portions of copyrighted material in the AI output. These cases continue to wind through the U.S. court system, but we are beginning to receive some signs as to the direction in which the law may develop, particularly with respect to the defense of fair use.

The copyright statute identifies four factors of the fair use defense without addressing the weight to provide each. In application, courts have elevated some of the factors to higher importance. The factors are:

- (1) The purpose and character of the use, including whether it is commercial;
- (2) The nature of the copyrighted work;
- (3) The amount and substantiality of the portion used in relationship to the copyrighted work as a whole; and
- (4) The effect of the use upon the potential market for the value of the copyrighted work.

These factors were the focus of the court's analysis in *Thomson Reuters Enterprises Centre GmbH v. ROSS Intelligence.*²²

The *Thomson Reuters* court was presented with allegations that ROSS engaged in copyright infringement through its use of third-party generated content that was largely based upon Westlaw headnotes to train an AI model to identify legal cases in response to user questions. After deciding that the Westlaw headnotes qualified as copyrighted material, the court delved into the four fair use factors and concluded that two supported ROSS and two supported Thomson Reuters. But the factors supporting Thomson Reuters—particularly factor four—were entitled to more weight, compelling a finding that the fair use defense did not apply.²³

The court stressed that a key fact driving its decision was that the AI model it analyzed was nongenerative, in that it was providing a list of cases that

were pertinent to the query as opposed to generating a narrative response. ²⁴ This will be a distinction that courts dealing with generative AI models may need to address. But there are some aspects of the analysis that may shape the outcomes in other cases. In view of the commercial nature of ROSS's endeavor, coupled with the fact that ROSS's use of the copyrighted material to train a non-generative AI model did not result in a transformed secondary work, the first factor supported Thomson Reuters. Importantly, the court rejected ROSS's reliance on several cases that applied the fair use defense, because in those cases "the copying was *necessary* for competitors to innovate." ²⁵

The second factor favored ROSS because the headnotes, which are short snippets from published cases, were "not *that* creative." This is likely a point of distinction for the generative AI model cases in which the allegations focus on more creative content like articles and photographs.

The third factor favored ROSS because the output was a list of judicial opinions as opposed to portions from the copyrighted West headnotes. It is expected that content owners involved in the generative AI model cases will assert the potential for those models to provide output that includes portions of the copyrighted materials, which would require a different outcome for this factor in such cases.²⁷

Finally, the court held that the fourth factor was "undoubtedly the single most important." The court held that this factor favored Thomson Reuters because ROSS's AI model would compete with Thomson Reuters in a way that would diminish the value of the copyrights. The court went further and noted that the use of the copyrighted material to train the AI model damaged the copyright based on the potential to license the content for use to train AI models. If accepted by other courts, this determination would have applicability to any AI model that accesses copyrighted material during training.

In view of the uncertainty associated with the application of the fair use defense to generative AI models, developers and deployers should consider whether they can obtain rights to the data used in training. It also seems prudent to implement safeguards in a generative AI model that prevents the output from containing any portions of copyrighted materials included in the training data.

These safeguards may align the analysis of a generative AI model for factor three with the analysis in *Thomson Reuters*, where the AI output would not contain copyrighted material.³⁰

Considering the ever-changing landscape related to the application of legal principles to AI, AI developers and deployers should take multiple approaches to protecting their AI advancements and avoiding liability. For content that includes AI input, companies may consider filing for copyright protection in the United States to cover any human contribution and in jurisdictions such as China that afford protection to AI-generated content. The foreign copyrights may be useful in removal proceedings should a copy of the content be published on the internet.

PROVIDED HUMAN INVOLVEMENT EXISTS, PATENTS WILL REMAIN KEY TO PROTECTING AI-GENERATED OUTPUTS, BUT AI HAS THE POTENTIAL TO FUNDAMENTALLY CHANGE ASPECTS OF PATENT LAW

Patents have a benefit over trade secrets and copyrights because, unlike trade secrets and copyrights, independent development is not a defense to patent infringement. While this has a clear advantage to erect a barrier to competition, the development of generative AI has raised questions related to inventorship, patent eligible subject matter, prior art, and the governing principles of obviousness, enablement, and written description. The United States Patent and Trademark Office (USPTO) and U.S. courts have provided guidance on some of these issues. But questions remain.

The USPTO and U.S. courts have made it clear that AI cannot be listed as an inventor. 31 The absence of a significant human contribution to either the conception or reduction to practice of the claimed invention forecloses obtaining a patent to protect the advancement. But when a human provides a significant contribution to the conception or reduction to practice, the fact that AI's contribution may rise to the level of a joint inventor does not foreclose patenting the advancement under the names of the human contributors.³² It is not surprising that the USPTO articulated a view that allows patenting AI-related advancements because, as a leader in these advancements, the United States wants to protect that output of AI. Therefore, patents will remain a key tool to protect advancements provided

by generative AI models in which the applicant can show significant human contribution to the conception or reduction to practice. But one can imagine that, as patents that included claims with AI contributions are litigated, potential infringers will question whether the human contribution sufficed such that a natural person was properly included as an inventor. If no natural person is included as an inventor, the patent would run afoul of the Federal Circuit's holding that at least one natural person be named as an inventor, and the patent would be held improperly granted.³³

Questions have arisen as to whether the patenteligible subject matter requirement of 35 U.S.C. § 101 will present a barrier to many AI-related inventions. The USPTO sought to allay these concerns with the publication of its Guidance on Patent Subject Matter Eligibility.³⁴ The guidance reiterated that the existing legal standard applies to AI and noted that the use of AI is irrelevant to whether the claimed invention covers patent-eligible matter.³⁵ A key issue that must be addressed for AI inventions is to distinguish "between a claim that 'recites' an abstract idea (and thus requires further eligibility analysis) and one that merely involves or is based on an abstract idea."36 While the Guidance does not provide clarity on how specific AI claims may fare, it does provide a few examples that examiners and patent applicants can use to guide the analysis of the claims. Concerns remain that the standard developed by the courts and reiterated by USPTO guidance remains too high a barrier for certain AI advancements, causing some in the industry to advocate for Congress to address the issue through legislation.37

There remain several patent concepts for which the USPTO has sought public comment but has not provided guidance.³⁸ These include the impact of AI on prior art, knowledge of the skilled artisan, and patentability analysis. The USPTO's, and, more importantly, courts' analyses of these concepts may fundamentally change the analysis of anticipation, obviousness, enablement, and written description.

When conducting an anticipation analysis, the USPTO and courts presume that an anticipatory prior-art reference is enabled (for all that it discloses) at the time of filing of the subject patent application.³⁹ If an article or patent authored by a human teaches each limitation of a claim, it will be the patent owner's burden to overcome the presumption

of enablement—this often is not an easy task. But questions have arisen as to whether the presumption should apply to prior-art references generated by AI. For example, if a person prompts an AI system to provide a disclosure of every structure that performs a certain function, this will likely generate a large number of structures with no test data showing that the structure can perform the function. Current case law would suggest that the absence of test data in the prior art reference is irrelevant to the enablement analysis. 40 Nevertheless, should the USPTO or the court presume that a publication that includes each structure identified by the AI model performs the function, and as such forecloses patenting by means of a human-authored patent application that shows that each structure performs the function? This is not a theoretical exercise, because there may be a benefit to a company to generate such prior art in an attempt to prevent competitors from obtaining patents. The inability to obtain patent protection may reduce the incentive for a company to develop a competing product.

AI's impact on the knowledge of the person of ordinary skill in the art may affect the obviousness assessment. Obviousness considers:

- (1) The scope and content of the prior art;
- (2) Any differences between the claimed subject matter and the prior art;
- (3) The level of skill in the art; and
- (4) Objective indicia of non-obviousness.⁴¹

This analysis often breaks down to showing that the person of ordinary skill in the art would have a motivation to combine the teaching with a reasonable expectation that the combination will achieved the desired result. The articulation of the obviousness test appears to appreciate the limited resources of a person. A person cannot try every combination. Thus, that person needs a reason to try a combination and would only make the combination if there was a chance of success. As generative AI advances, the expectation is that it can analyze an infinite number of combinations and will be able to predict the success of those combinations. Those potential capabilities of generative AI could force a reconsideration of the obviousness analysis lest everything

be considered obvious—particularly in fields where the use of AI by the skilled artisan is prevalent.

The capabilities of AI may alter the way the USPTO and courts look at the enablement and written description requirements for certain claims. In recent years, claims that seek to define a structure by the function that is performed, e.g., an antibody that binds to a certain protein as opposed to describing the structure itself, have confronted issues in complying with the enablement and written description requirements of 35 U.S.C. §112.⁴³ For these claims, the courts often conclude that disclosure of the patent is too limited to enable or show possession by the inventors of all of the structures that may perform the function.

The enablement standard questions whether a person of ordinary skill in the art could practice the invention without undue experimentation. To make this determination, the courts look at a number of factors including the level of skill in the art, the level of predictability in the art, and the number of examples in a patent application. Generative AI has the ability to impact these factors by enhancing the knowledge of the skilled artisan, reducing the unpredictability by assisting the skilled artisan in identifying each of the structures that could perform the function, and by allowing a patentee to supplement its specification by providing additional prophetic examples that AI provided in responses to the patentee's prompts. This latter point may also assist in showing compliance with the written description requirement.

The written description requirement asks whether the disclosure in the specification shows that the patentee possessed the full scope of the invention. For broad functional claims, the courts consider whether the patent specification either teaches a structurefunctional relationship, e.g., the presence of certain components in a structure that will allow a person of ordinary skill in the art to understand that the structure will perform the function, or the presence of a number of examples that are representative of the full scope of the invention.44 These are difficult to show in unpredictable arts. But will that change with the availability of generative AI? A power of generative AI is a capability that surpasses human ability to recognize patterns and connections. Could a patentee supplement its specification by using generative AI to identify components that must appear in a structure for it to perform the function, and if

so, what level of confirmation is required to support the disclosure? Similarly, could the patentee supplement its specification with numerous AI-generated prophetic examples to show that the disclosure provides a representative number of examples that are indicative of all of the structures encompassed by the claims?

Whether or not the additional AI examples would suffice to address the enablement and written description issues, the inclusion of these examples may have benefits. The disclosure could generate prior art that will foreclose competitors from obtaining a patent to cover a product that may compete with the initial invention. It also may allow a patent applicant to seek narrow claims directed to specific examples in a continuation patent application should it appear that a competitor is developing a rival product.⁴⁵

CONCLUSION

As generative AI capabilities advance, companies will need to decide how best to protect the IP that flows from the investment in AI and to prevent other companies' IP from presenting commercial barriers. Considering some of the questions that the USCO, USPTO, and courts will have to address for copyrights and patents, the use of trade secret protection may afford the best option in the near term. Companies will still need to track the developments in copyrights and patents as they pertain to AI-generated content because, as clarity arises in copyright and patenting principles, those forms of IP may provide stronger protection for a company's investments or greater barriers in the marketplace presented by others' IP.

Notes

- 1. 18 U.S.C. § 1839(3).
- 2. Id
- 3. 35 U.S.C. § 101 (patent eligible subject matter includes "any new and useful processes, machines, manufacture, or composition of matter, or any new and useful improvement thereof."); Feist Publications, Inc. v. Rural Telephone Service Company, Inc., 499 U.S. 340, 345, 111 S.Ct. 1282, 1287 (1991) ("The sine qua non of copyright is originality. . . . Original, as the term is used in copyright, means only that the work was independently created by the author . . . and that it possesses at least some minimal degree of creativity.").
- 4. 18 U.S.C. § 1839(3)(A).

- Patent and copyright ownership derive from inventorship and authorship respectively. The use of AI may complicate the inventorship and authorship analyses.
- 6. "[T]he term 'owner,' with respect to a trade secret, means the person or entity in whom or in which rightful legal or equitable title to, or license in, the trade secret is reposed." 18 U.S.C. § 1839(4).
- 7. 18 U.S.C. § 1839(6).
- 8. Compulife Software, Inc. v. Newman, 111 F.4th 1147 (11th Cir. 2024).
- 9. OpenEvidence Inc. v. Pathway Medical, Inc., 12-cv-10471, Document 1 at ¶ 2 (D. Mass Feb. 26, 2025).
- 10. Id. at ¶ 3.
- 11. Id. at ¶¶ 4, 8.
- Oakwood Lab'ys LLC v. Thanoo, 999 F.3d 892, 906 (3d Cir. 2021).
- T2 Modus LLC v. Williams-Arowolo, No. 4:22-CV-00263, 2023 WL 6221429, at *5 (E.D. Tex. Sept. 25, 2023); see also, Yammine v. Toolbox For HR, 21-CV-00093, 2023 WL 6259412, at *6 (D. Az. Aug. 8, 2023).
- 14. Thaler v. Perlmutter, No. 23–5322, 2025 WL 839178, at *1 (D.C. Mar. 18, 2025) (holding the Copyright Act of 1976 requires human authorship to be eligible for registration).
- USCO, Copyright and Artificial Intelligence, Part
 Copyrightability (January 2025) at 18, https://www.copyright.gov/ai/Copyright-and-Artificial-Intelligence-Part-2-Copyrightability-Report.pdf.
- 16. Id. at 21.
- 17. Li v. Liu (2023), Beijing Internet Court Civil Judgment, (2023) Jing 0491 Min Chu No. 11279.
- 18. USCO, Copyright and Artificial Intelligence, Part 2: Copyrightability (January 2025) at 9 ("In sum, the use of a machine as a tool does not negate copyright protection, but the resulting work is copyrightable only if it contains sufficient human-authored expressive elements.").
- 19. Id. at 27 ("[T]he inclusion of elements of AI-generated content in a larger human-authored work does not affect the copyrightability of the larger human-authored work as a whole.").
- 20. Code developers should consider any licensing obligations that will apply to code generated by an AI model. Those licensing obligations may require a developer to provide access to the portions of code containing any AI-generated code.
- 21. In order to show copyrightability of the human-generated aspects of the source code, the code developer will need to be able to track the portions of the code generated by AI so that portion of the code is not claimed as copyrighted. If it is not feasible to segregate human-generated versus AI-generated portions of the source

- code, trade secret may be a better option for protecting the code.
- 22. Thomson Reuters Enterprise Centre GmbH and West Publishing Corp. v. ROSS Intelligence Inc., 1:20-cv-00613-SB, 2025 WL 458520 (D. Del. Feb. 11, 2025) (Order).
- 23. Id. at *7.
- 24. Id. at **7-*8.
- 25. Thomson Reuters Enterprise Centre GmbH and West Publishing Corp. v. ROSS Intelligence Inc., 1:20-cv-00613-SB, 2025 WL 458520, at *8 (D. Del. Feb. 11, 2025) (emphasis in original). The court noted that cases ROSS cited focused on making intermediate copies of portions of source code to develop functional capabilities or gain access to unprotected elements, e.g., copying code that allowed programs to interface with the software. Id.
- 26. Id. at *9 (emphasis in original).
- 27. In Concord Music Group, Inc. v. Anthropic PBC, Anthropic agreed to implement measures that prevent the inclusion of copyrighted material in its model's output, and the court cited the agreement in denying the request for a preliminary injunction. 5:24-cv-03811-EKL, 2025 WL 904333 *3, *6 (N.D. Ca. Mar. 25, 2025). Such a safeguard would likely moot some of a content owner's arguments under factor 3.
- 28. Thomson Reuters Enterprise Centre GmbH and West Publishing Corp. v. ROSS Intelligence Inc., 1:20-cv-00613-SB, 2025 WL 458520, at *9 (D. Del. Feb. 11, 2025).
- 29. Id. at *10 ("And it does not matter whether Thomson Reuters has used the data to train its own legal search tools; the effect on a potential market for AI training data is enough.") (emphasis in original).
- 30. Concord Music Group, Inc. v. Anthropic PBC, 5:24-cv-03811-EKL, Doc. 291 (N.D. Ca. Jan 2, 2025); Thomson Reuters Enterprise Centre GmbH and West Publishing Corp. v. ROSS Intelligence Inc., 1:20-cv-00613-SB, 2025 WL 458520, at *9 (D. Del. Feb. 11, 2025) ("There is no factual dispute: Ross's output to an end user does not include [Thomson Reuters's copyrighted material]").
- 31. Thaler v. Vidal, 43 F.4th 1207 (Fed. Cir. 2022).
- 32. Inventorship Guidance for AI-Assisted Inventions, 89 Fed. Reg. 10,043, 10,045 (Feb. 13, 2024) ("[T]he USPTO recognizes that while an AI system may not be named an inventor . . . [it] may perform acts that, if performed by a human, could constitute inventorship under our laws."), https://www.federalregister.gov/documents/2024/02/13/2024-02623/inventorship-guidance-for-ai-assisted-inventions.
- 33. Thaler v. Vidal, 43 F.4th 1207, 1210 (Fed. Cir. 2022).

- 34. 2024 Guidance Update on Patent Subject Matter Eligibility, Including on Artificial Intelligence, 89 Fed. Reg. 58128 (July 17 2024), https://www.federalregister.gov/documents/2024/07/17/2024-15377/2024-guidance-update-on-patent-subject-matter-eligibility-including-on-artificial-intelligence; see also USPTO, "USPTO issues AI subject matter eligibility guidance" (July 16, 2024),https://www.uspto.gov/about-us/news-updates/uspto-issues-ai-subject-matter-eligibility-guidance.
- 35. 2024GuidanceUpdateonPatentSubjectMatterEligibility, Including on Artificial Intelligence, 89 Fed. Reg. 58128, 58138 (July 17, 2024), https://www.federalregister.gov/documents/2024/07/17/2024-15377/2024-guidance-update-on-patent-subject-matter-eligibility-including-on-artificial-intelligence.
- 36. Id. at 58134.
- 37. Ryan Davis, Law360, "White House Urged to Back Patent Eligibility Bill to Aid AI," published March 12, 2025.
- 38. Request for Comments Regarding the Impact of the Proliferation of Artificial Intelligence on Prior Art, the Knowledge of a Person Having Ordinary Skill in the Art, and Determinations of Patentability Made in View of the Foregoing, 89 Fed. Reg. 34217 (April 30, 2024), https://www.federalregister.gov/documents/2024/04/30/2024-08969/

- request-for-comments-regarding-the-impact-of-the-proliferation-of-artificial-intelligence-on-prior.
- 39. In re Antor Media Corp., 689 F.3d 1282, 1287-1288 (Fed. Cir. 2012) (holding presumption of enablement applies to non-patent printed publications as well as patent prior art publications); In re Morsa, 803 F. 3d 1374, 1377 (Fed. Cir. 2015) ("Enablement of prior art requires that the reference teach a skilled artisan—at the time of filing—to make or carry out what it discloses in relation to the claimed invention without undue experimentation.").
- 40. In re Antor Media Corp., 689 F.3d at 1290 ("[T]he invention in a prior art publication need not have actually been made or performed to satisfy enablement.").
- 41. Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966).
- 42. Ariosa Diagnostics v. Verinata Health, Inc., 805 F.3d 1359, 1364 (Fed. Cir. 2015).
- 43. See, e.g., Amgen v. Sanofi, 143 S.Ct. 1243, 598 U.S. 594 (2023).
- 44. Juno Therapeutics, Inc. v. Kite Pharma, Inc., 10 F.4th 1330, 1335 (Fed. Cir. 2021).
- 45. When pursuing such claims, the applicant should consider how to show that a human made a significant contribution to the conception and reduction to practice of a claim that directed to the examples generated by AI.

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UNITED STATES COPYRIGHT OFFICE WEIGHS IN ON FAIR USE DEFENSE FOR GENERATIVE AI TRAINING

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On Friday, May 9, the United States Copyright Office ("USCO") released a "pre-publication version" of its long-anticipated third and final report in a series of guidance on copyright and artificial intelligence. This report, which followed a first (published in July 2024) focusing on "digital replicas" or deepfakes and a second (published in January 2025) on the copyrightability of works created with the aid of artificial intelligence, focuses on the training of generative AI models. This report is the only one of the three to be released in "pre-publication" form; this uncommon step came one day after the dismissal of Dr. Carla Hayden, Librarian of Congress, and one day prior to the dismissal of Register of Copyrights Shira Perlmutter. The USCO stated that it released the pre-publication version "in response to congressional inquiries and expressions of interest from stakeholders," noting that the "final version will be published in the near future, without any substantive changes expected in the analysis or conclusions." 1

As with other reports in the series, the USCO does not recommend any government intervention at this time; however, it does offer a detailed analysis of the potential applicability of a fair use defense to the training of generative AI models, as well as a strong endorsement for the further development of the voluntary licensing market for training data.

While the report emphasizes that a fair use analysis requires a case-by-case, fact-specific inquiry, it also offers specific guidance on certain factual circumstances that are likely to cut for or against a finding of fair use. The USCO notes that, while there is no set formula, "the first and fourth factors can be expected to assume considerable weight in the analysis." Although the report does not foreclose the possibility of a successful fair use defense in some circumstances, its analysis of the factors—particularly the more heavily weighted first and fourth factors—tends to disfavor a finding of fair use.

In its analysis of the first factor—the purpose and character of the use—the USCO focuses largely on the transformative nature of the use. Although the report concludes that "training a generative AI foundation model on a large and diverse dataset will often be transformative," it also cautions that "transformativeness is a matter of degree, and how transformative or justified a use is will depend on the functionality of the model and how it is deployed." The report expressed a more favorable view towards uses such as research and content moderation and was more critical of models that "generate outputs that are substantially similar to copyrighted works in the dataset," noting that "[m]any uses fall somewhere in between." Regarding the commerciality prong, the report confirms that the inquiry is not whether the user is a for-profit or not-for-profit entity but rather the specific purpose of the use itself.

Additionally, the report notes that unlawful access—such as pirating works or circumventing paywalls—will weigh strongly against a finding of fair use. Although the report states that this factor alone is not determinative, it emphasizes that such conduct "goes a step further" than intentionally using a work despite denial of permission and "bears on the character of the use. ** The report also brings this up in its analysis of other fair use factors, making clear the USCO's position that training a model on pirated or paywalled content—particularly without appropriate guardrails to ensure the outputs do not include portions of the copyrighted work—is highly detrimental to a fair use defense.

The USCO's analysis of the second factor—the nature of the copyrighted work—notes that this prong requires a fact-specific analysis that "will vary depending on the model and the works at issue," commenting that "[w]here the works involved are more expressive, or previously unpublished, the second factor will disfavor fair use." 10

Similarly, in its analysis of the third factor—the amount and substantiality of the use—the USCO recommends a case-by-case assessment, leaving open the possibility that, while the use of an entire work would weigh against a finding of fair use, "the use of entire works appears to be practically necessary for some forms of training for many generative AI models." The report emphasizes the importance of effective safeguards to avoid "memorized" works and prevent infringing outputs. 12

The report devotes significant analysis to the fourth factor—the effect on the potential market for or value of the copyrighted work—noting that "[t]he Supreme Court has twice described this factor as 'undoubtedly the single most important element of fair use,' although its importance 'will vary, not only with the amount of harm, but also with the relative strength of the showing of the other factors.'" This section of the report balances potential public benefits of unlicensed training against a wide swath of potentials impact on market value of the copyrighted works, "including through lost sales, market dilution, and lost licensing opportunities."

The USCO expresses concern over outputs that could act as direct substitutes for copyrighted works: "If thousands of AI-generated romance novels are put on the market, fewer of the human-authored romance novels that the AI was trained on are likely to be sold." The report warns of "significant potential harm to the market for or value of copyrighted works." While a typical fair use analysis necessarily examines the overall impact the allegedly infringing use has on the market, this theory of market dilution expands into "uncharted territory" and is generally aligned with an overall prioritization of the interests of the owners of copyrighted works. In addition to concerns about market dilution based on the outputs of generative AI, the report also highlights concerns about the market for data sets that could be licensed to train AI models and encourages the licensing of training data wherever possible: "Where licensing options exist or are likely to be feasible, this consideration will disfavor fair use under the fourth factor."

Although the report does not directly address any of the pending litigations regarding the use of copyrighted works in the training of Al models, it outlines a general spectrum of potential outcomes:

On one end of the spectrum, uses for purposes of noncommercial research or analysis that do not enable portions of the works to be reproduced in the outputs are likely to be fair. On the other end, the copying of expressive works from pirate sources in order to generate unrestricted content that competes in the marketplace, when licensing is reasonably available, is unlikely to qualify as fair use. Many uses, however, will fall somewhere in between.¹⁹

The report also discusses in detail the varying comments it received regarding potential concerns and considerations regarding licensing of copyrighted works for AI training, including the potential for a compulsory licensing regime or an opt-out mechanism—both of which the report ultimately advises

against.²⁰The report does express a somewhat favorable view towards an extended collective licensing ("ECL") system, with licensing rights administered by a collective management organization ("CMO"), similar to ASCAP and BMI in the music industry. Although the report ultimately "recommends allowing the licensing market to continue to develop with government intervention," it also suggests the consideration of "targeted intervention such as ECL" in the event of market failures.²¹

In addition to its analysis of the applicability of fair use factors and its encouragement of licensing training data where possible, the report also discusses potential means through which infringement may occur. Two of these discussions are worth highlighting. The report discusses the model's "weights"—or the numerical parameters that encode what it has learned—to examine whether these tokens can constitute a copy and thus, subsequent reproduction or use of the model weight may amounts to copyright infringement.²² The report concludes that "[w]hether a model's weights implicate the reproduction or derivative work rights turns on whether the model has retained or memorized substantial protectable expression from the work(s) at issue," focusing primarily on the outputs and whether the ultimate content generated is substantially similar to the copyrighted work.²³ This argument has the potential to expand the risk that users of Al models may face from the content owners objecting to the use of their works as training data.

The report also discusses retrieval-augmented generation ("RAG"), which typically involves the generation of a prompt or search through which works or material responsive to the prompt may be retrieved and notes that this activity involves the reproduction of copyrighted works.²⁴ The report notes the importance of these features in certain models, particularly those involved in news media; it also cautioned that such uses are unlikely to be transformative.²⁵

By providing examples and analysis of the types of factual patterns most likely to support or cut against a finding of fair use, the USCO offered long-awaited guidance on the manner in which a fair use defense may be applied to cases involving generative Al. Given the USCO's well-established position that works which are generated wholly by Al are not eligible for copyright protection, it is not surprising that significant portions of the report are protective of the interests of copyright holders—particularly with regards to the heavily weighted fourth factor of the fair use analysis. However, the report ultimately provides ammunition for both sides in many of the pending lawsuits regarding copyright and generative Al.

¹ Copyright and Artificial Intelligence, Part 3: Generative AI Training (Pre-Publication Version), at i.

² *Id.* at 74.

³ *Id.* at 45.

⁴ *Id.* at 46.

⁵ *Id.*

⁶ *Id.* at 51.

⁷ *Id.* at 51-52.

⁸ *Id.* at 52. ⁹ *Id.* at 62,74. ¹⁰ *Id.* at 54. ¹¹ *Id.* at 57. ¹² *Id.* at 59. ¹³ *Id.* at 61 (internal citations omitted). ¹⁴ *Id.* at 61. ¹⁵ *Id.* at 65. ¹⁶ *Id.* at 73. ¹⁷ *Id.* at 65. ¹⁸ *Id.* at 73. ¹⁹ *Id.* at 74. ²⁰ *Id.* at 103-104. ²¹ *Id.* at 106. ²² *Id.* at 28-29. ²³ *Id.* at 30.

²⁴ *Id.* at 30.

²⁵ *Id.* at 31, 47.

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APPELLATE COURT CONFIRMS COPYRIGHT STATUTE LIMITS AUTHORSHIP TO HUMANS, FORECLOSING COPYRIGHT REGISTRATION FOR CONTENT SOLELY GENERATED BY AI

AUTHORS: BRIAN W. NOLAN, RICHARD M. ASSMUS

AT A GLANCE

On March 18, 2025, the United States Court of Appeals for the District of Columbia Circuit affirmed decisions by a lower court and the United States Copyright Office that human authorship is required to obtain copyright protection in the United States, thereby foreclosing copyright registration for content solely generated by AI.

As many expected, the United States Court of Appeals for the District of Columbia Circuit <u>affirmed</u> decisions by a lower court and the United States Copyright Office (USCO) that human authorship is required to obtain copyright protection in the United States. 1

The court limited its analysis to whether the Copyright Act of 1978 ("Act") required human authorship, avoiding the larger question of whether the Constitution mandates human authorship.² Had the court weighed in on the constitutional issue, the result may have limited legislative options to expand copyright protection to Al-generated content. By limiting the analysis to the Act, the decision could be overruled by legislation that expands the definition of authorship. Should that occur, a constitutional challenge to the new statute may await.

The court provided a straightforward analysis rooted in the Act's use of "author" and "machine."

- The Act relies on the term "author" to vest certain rights and determine the duration of a copyright. It noted that the Act vests a property right in the author immediately upon creation, but, as a machine, an Al model cannot own property.³
- The duration of a copyright is often based upon the life of the author. Machines do not have "lives," and operability is not akin to measuring a human life.⁴
- The Act transfers ownership to the author's heirs upon death—another concept inapplicable to a machine. Conveyance of a copyright requires a signature by an author, a task the court concluded

a machine could not perform.⁶

- The Act discusses the author's nationality or domicile—concepts inapplicable to machines. I
- The Act considers the intent of an author, and the court noted that "[m]achines lack minds and do not intend anything."

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- The court bolstered its analysis by considering the discussion of the machines in the Act. The court noted that the Act makes clear that the machine acts as a tool to assist an author in generating content and not as an author.⁹

These points led the court to the inescapable conclusion "that the *current* Copyright Act's text, taken as a whole, is best read as making humanity a necessary condition for authorship under the Copyright Act." 10,11

While the statutory analysis would suffice to support the court's decision, the court supplemented the analysis by considering USCO policy that existed at the time of passage of the Act. The court explained that the USCO formally adopted a human authorship requirement in 1973. The court further noted that a congressional commission charged with reviewing the impact of new technology on copyrighted works stated in 1978 that "there is no reasonable basis for considering that a computer in any way contributes authorship to a work produced through its use." Considering the advancements in Al, one could quibble with this point as dated. But the court was attempting to understand congressional intent in 1978 when Congress created the Act.

The D.C. Circuit's decision maintains the status quo in the United States—human authorship remains essential to copyrightability. But the court chose not to foreclose a different result in the future. The limitation of the decision to the Copyright Act of 1978 provides flexibility for legislative action that would broaden the reach of copyrights. This may be appropriate, considering the advancement of computer technology since 1978; it may no longer be accurate to state that "there is no reasonable basis for considering that a computer in any way contributes authorship to a work produced through its use."

⁷ *Id.*

¹ Thaler v. Perlmutter, 23-5233, 2025 WL 839178 *1 (D.C. Mar. 18, 2025).

² The court did not analyze whether Mr. Thaler was the author of the Al-generated content though his creation and use of the Al model, because he failed to raise the argument before the USCO. *Thaler v. Perlmutter*, 23-5233, 2025 WL 839178 *1 (D.C. Mar. 18, 2025).

³ Thaler v. Perlmutter, 23-5233, 2025 WL 839178 *4 (D.C. Mar. 18, 2025).

⁴ Id.

⁵ *Id.* at *5.

⁶ *Id*.

8 *Id.*

⁹ *Id*.

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¹⁰ *Id.* at *6 (emphasis added).

¹¹The court dismissed Mr. Thaler's evidence supporting a broader meaning of the term "author," because "statutory construction requires more than just finding a sympathetic dictionary definition." *Thaler v. Perlmutter*, 23-5233, 2025 WL 839178 *7 (D.C. Mar. 18, 2025). It also rejected Mr. Thaler's work made-for-hire analysis. The fact that the Act allows a work created by a human author to be immediately transferred to another entity does not override that the act of creation originates from a human. *Thaler v. Perlmutter*, 23-5233, 2025 WL 839178 *7 (D.C. Mar. 18, 2025).

¹² Thaler v. Perlmutter, 23-5233, 2025 WL 839178 *6 (D.C. Mar. 18, 2025).

FEBRUARY 06, 2025

HUMAN INPUT NECESSARY FOR COPYRIGHTABILITY OF WORKS CREATED WITH ARTIFICIAL INTELLIGENCE

AUTHORS: BRIAN W. NOLAN, MEGAN P. FITZGERALD

Last week, the United States Copyright Office ("USCO") released its long-anticipated report on the copyrightability of works created with the aid of artificial intelligence ("AI"). The report did not break new ground by recommending updated legislation or providing an objective bright-line test to determine the copyrightability of works created with Al. Instead, the USCO reaffirmed its position that, consistent with established principles of copyright law, some level of human involvement is necessary for a work created with Al to be eligible for copyright protection.

This report is the second of an anticipated series of three reports the USCO has announced on copyright and Al. The <u>first</u>, which focused on "digital replicas" or deepfakes, was issued in July 2024 and recommended legislative action to address the issue; the <u>third</u>, which the USCO says will address "the legal implications of training Al models on copyrighted works, licensing considerations, and the allocation of any potential liability," is <u>anticipated later this year</u>. To draft the reports, the USCO sought public input and received over 10,000 comments between August and December of 2023.

According to the report, approximately half of the comments received addressed copyrightability, and the "vast majority of commenters" (1) did not believe additional legislation was necessary to address the issue of copyrightability, and (2) did not believe material generated entirely by AI should receive copyright protection.

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The USCO has been consistent in its position that the cornerstone of copyrightability remains grounded in the existence of at least some level of human creativity in developing the content. In its report, the USCO further clarified that prompts alone were insufficient to afford a work copyright protection, concluding that "[p]rompts essentially function as instructions that convey unprotectable ideas," and that currently available technologies do not offer enough control and predictability in outputs. While the USCO left open the possibility that future technological advances may change this assessment, it made clear that this is not the current reality:

"In theory, AI systems could someday allow users to exert so much control over how their expression is reflected in an output that the system's contribution would become rote or mechanical. The evidence as to the operation of today's AI systems indicates that this is not currently the case."

The USCO did not set a bright-line rule or test to determine the level of human input necessary to make a work eligible for copyright protection, instead recommending the application of existing laws to evaluate works on a case-by-case basis. In particular, the USCO continued to point to the standard

established in *Feist* to subjectively determine whether a work meets the "requisite level of creativity . . . no matter how crude, humble, or obvious." *Feist Publications, Inc. v. Rural Telephone Service Co.*, 499 U.S. 340, 345 (1991). The USCO recognized that "various forms and combinations of human contributions can be involved in producing Al outputs" and that, as with many assessments of copyrightability, case-by-case judgment and analysis are necessary.

Additionally, the USCO examined a variety of foreign laws regarding the copyrightability of works generated with AI, including those in South Korea, Japan, China, the European Union, the United Kingdom, Hong Kong, India, New Zealand, Canada, and Australia. The report concluded that, while "some level of consensus on the need for human authorship appears to be emerging, and most countries have so far continued to apply existing law, it is clear that views are still being formed."

Although the USCO did not recommend additional legislation to address the issue of copyrightability, it did recognize the role that the courts will play in "provid[ing] further guidance on the human authorship requirement as it applies to specific uses of Al (including in reviewing the USCO's registration decisions)."

The report specifically references *Thaler*, which is currently pending appeal in the DC Circuit and involves the denial of copyright protection to a two-dimensional artwork that was created without human involvement. *See Thaler v. Perlmutter*, No. 23-5233 (D.C. Cir. Oct. 18, 2023). The Office's denial of Thaler's registration was affirmed by the US District Court for the District of Columbia. *Thaler v. Perlmutter*, 687 F. Supp. 3d. 140 (D.D.C. 2023). An additional lawsuit challenging the USCO's refusal to register a work generated with Al was filed last fall; the plaintiff argues that he used more than 600 prompts to refine the Al-generated work. *Allen v. Perlmutter*, No. 1:24-cv-2665 (D. Colo. Sept. 26, 2024). The outcome of lawsuits such as these should provide insight concerning the practical application of the guidelines set by the USCO report.

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<sup>1</sup> Copyright and Artificial Intelligence, Part 2: Copyrightability, at ii.
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² *Id.* at 18.

³ *Id.* at 19.

⁴ See id. at 8-9.

⁵ *Id.* at 2.

⁶ *Id.* at §III.

⁷ *Id.* at 31.

⁸ *Id.* at 40.

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