

U.S. COPYRIGHT OFFICE  
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# Re: Notice of Inquiry and Request for Comments on Artificial Intelligence and Copyright

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SUBMITTED: OCTOBER 30, 2023CURT LEVEY  
*PRESIDENT*  
THE COMMITTEE FOR JUSTICE

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## Introduction

The Committee for Justice (CFJ) thanks the U.S. Copyright Office for the opportunity to comment on this important notice of inquiry regarding artificial intelligence and copyright.

In sum, CFJ recommends that Congress address the issues raised by recent federal lawsuits alleging that the developers of generative AI models have infringed the copyrights on material used to train these models. Analogizing to the application of copyright law to humans who learn to create using examples drawn from copyrighted materials, we recommend to policymakers and the courts that protection for copyright holders be focused on the outputs of generative AI models, asking whether they are substantially similar to copyright-protected training materials.

Founded in 2002, CFJ is a nonprofit legal and policy organization that promotes, and educates the public and policymakers about, the rule of law and the benefits of constitutionally limited government. As part of this mission, CFJ advocates in Congress, the courts, and the news media about a variety of law and technology issues, encompassing intellectual policy, antitrust law and competition policy, administrative law and regulatory reform, artificial intelligence, free speech, data privacy, and the impact of all these on innovation and economic growth.

Curt Levey, the author of these comments, is an attorney with a previous career as an artificial intelligence scientist, as well as legal and policy experience in intellectual property, including copyright. Recently, he co-authored Supreme Court amicus briefs in two copyright cases, *Google v. Oracle* (2021) and *Andy Warhol Foundation v. Goldsmith* (2023).

Prior to attending Harvard Law School (J.D. 1997), Mr. Levey studied artificial intelligence at Brown University, earning undergraduate and Master's degrees in computer science. His Master's thesis involved research and development of an AI system that reasoned about the temporal relationships between events. Upon graduation from Brown University, he built

machine learning models as a research assistant to James Anderson, a professor of cognitive science and brain science at Brown.

After Brown University, Levey joined Hecht-Nielsen Neurocomputer Corp. (later "HNC Software"), an AI startup company in San Diego, CA, where he worked for five years as a staff scientist, designing and building numerous AI models and tools, training others to do the same, and writing about machine learning. While at HNC, in anticipation of the obstacles posed to AI adoption by transparency and accountability concerns, he invented and implemented a patented<sup>1</sup> technology that provided explanations and confidence measures for the decisions made by neural networks. The technology was incorporated in a variety of AI applications and saw worldwide use in an AI system that detects payment-card fraud.

More recently, Mr. Levey has written about AI policy<sup>2</sup> and organized and moderated<sup>3</sup>, as well as participated in<sup>4</sup>, panels on the problem of bias in AI. On May 2 of this year, he testified at the U.S. Copyright Office's listening session on the use of artificial intelligence to generate works of visual art<sup>5</sup>.

## Question addressed

Our comments primarily address Question 5 in the request for comments, which asks "Is new legislation warranted to address copyright or related issues with generative AI? If so, what should it entail?" Our comments should be taken to suggest not just new legislation, but also new policy generally, whether it takes the form of statutory changes, regulations, or forthcoming judicial interpretations of existing copyright law as courts struggle with the novel legal issues presented by recent litigation concerning generative AI. These comments also touch on the subject matter of Questions 7.1, 7.2, 8, 9.2, 22, 23, 27, and 34.

Our comments focus on a subset of AI technologies, namely generative AI models. These models produce complex output patterns – typically images, audio, video, or text – after being trained on datasets consisting of training materials of the same data type.

## Comments

Issues surrounding the use of copyrighted images to train generative AI models have been at the legal and public forefront over the past year due to the filing of federal lawsuits claiming that

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<sup>1</sup> <https://patents.justia.com/patent/5398300>

<sup>2</sup> See, e.g., <https://www.wsj.com/articles/algorithms-with-minds-of-their-own-1510521093>; <https://thehill.com/opinion/technology/444568-congress-can-bring-the-government-into-the-age-of-artificial-intelligence>; <https://thehill.com/opinion/technology/432093-american-artificial-intelligence-strategy-offers-promising-start>

<sup>3</sup> <https://fedsoc.org/events/artificial-intelligence-and-bias>

<sup>4</sup> <https://fedsoc.org/events/artificial-intelligence-anti-discrimination-bias>; <https://regproject.org/event/live-podcast-is-artificial-intelligence-biased-and-what-should-we-do-about-it>

<sup>5</sup> <https://www.copyright.gov/ai/agenda/2023-Visual-Arts-Agenda.pdf>

that the developers of generative AI models – including image generators and large language models – have infringed the copyrights on material contained in the training datasets. These datasets are used (some say “ingested”) by the models as part of the machine learning process. The complaint in *Getty Images v. Stability AI* (filed 2023), which targets the Stable Diffusion model, is typical. As the instant request for comments states, the complaint “alleges both infringement based on use of copyrighted images to train a generative AI model and on the possibility of that model generating images ‘highly similar to and derivative of’ copyrighted images.”

The training materials at issue in these lawsuits are publicly available on the internet. To the extent that AI model builders want to use curated datasets or any other data that is not publicly available, their only lawful option is to contract for access to the data, and thus copyright infringement is not an issue.

In the short term, courts will have to resolve the issue of copyright infringement by training materials. In the longer term, Congress should step in and clarify the law – presumably by amending the Copyright Act of 1976 – like it has done before when new technology has resulted in difficult new issues under copyright law. The approach to generative AI and copyright protection recommended in these comments should guide any statutory changes enacted by Congress, but they are also relevant to federal regulators and the courts, as they struggle with novel legal issues.

#### Similarity between human and machine learning

Whether we are talking about the courts, which must be guided by existing statutes and precedent, or Congress, the good news is that there is no need to reinvent the wheel when approaching the question of copyright infringement by generative AI models. The similarities between machine learning in generative AI models and the way in which human creators learn from a lifetime of examples makes it possible to apply the law governing the latter to the former.

In order to understand the similarities, consider that human creators learn a skill – painting images or writing music, for example – from countless examples of art, music, and the like. They are not born with that skill. As a human learns from each new example, the synaptic strengths between neurons in their brains are slightly modified to reflect the new learning

Similarly, neural networks, the technology underlying generative AI models, learn to generate images, music, and the like by being presented with a very large number of examples. Neural networks consist of analogues to biological neurons and synapses, typically simulated in software. As with humans, learning takes place as the synaptic strengths (“weights”) are slowly modified in response to training examples.

There seems to be a common misconception that a trained generative AI model retains copies, in some form, of the individual training materials. Take, for example, the complaint in *Andersen v. Stability AI* (filed 2023), alleging copyright infringement by popular image-generating AI models. The attorneys for the plaintiffs, who represent various plaintiffs in several of the other leading legal challenges to generative AI, assert that “By training Stable Diffusion on the

Training Images, Stability caused those images to be stored at and incorporated into Stable Diffusion as compressed copies."

In actuality, a trained AI model retains no copies of the training materials. Retaining specific examples would be at odds with the objective of machine learning, which is to *generalize* from rather than remember the training materials. In fact, it is this aspect of neural networks, learning subtle relationships and patterns encoded in the interplay of the model's weights, that makes the behavior of AI models so hard to control and explain.

Again, this is similar to how humans learn. While humans are capable of remembering a limited number of the specific examples they learn from, any sort of deep learning – whether it involves learning a creative skill or just recognizing the difference between a dog and a wolf – requires generalization from examples.

### Focus on the outputs

When a human learn from ingesting examples in the domain they are trying to master, much of that material is often protected by copyright. Yet that ingestion goes virtually unchallenged, being regarded as either fair use or not subject to the Copyright Act at all. However, if that human uses their learning to reproduce or produce a derivative work from one of the copyrighted examples without authorization – or indeed from any copyrighted material – they are liable for copyright infringement unless they have a fair use defense.

To put it another way, when assessing copyright infringement by humans, we typically look at the potentially infringing work the human produced rather than the process used to produce it, whether the process is the examples he learned the relevant skills from or the tools he used to produce the work.

We suggest a similar approach to assessing copyright infringement by generative AI models – that is, a focus on the outputs of the model. Where an output is “substantially similar” to any of the copyright-protected training materials – or any copyrighted work for that matter – it should be treated as a derivative work, subject to liability for infringement.<sup>6</sup>

On the other hand, the mere use of copyrighted material in a training dataset should be presumed to be fair use rather than copyright infringement. The presumption of fair use can, nonetheless, be rebutted by showing that there was copying and retention of copyrighted training materials beyond that necessary to train the AI model (more on this later).

### Why rely on human-based policies?

This is a good point at which to stop and ask why should we analogize to human learning and creation in determining how to apply copyright law to potential infringement by generative AI.

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<sup>6</sup> The question of which person or entity should be liable – the developers of the model, the developers of the training dataset, the user whose prompt resulted in the infringing output, or someone else – is beyond the scope of these comments.

One reason is that the analogy allows policy makers to more easily adapt existing law when faced with this new technology. Dealing with the many legal and policy challenges reflected in the numerous questions listed in the instant request for comments is hard enough without reinventing the wheel. Congress and the Copyright Office should use the similarity between human and machine learning to their advantage to guide policy development.

Similar reasoning should govern the courts as they tackle the legal issues presented by recent litigation concerning generative AI. In fact, courts are required to apply existing law rather than creating new policies. When faced with relatively novel legal issues resulting from new technology, courts rely on analogies. For example, while the Fourth Amendment's guarantee of privacy in one's "persons, houses, papers" does not apply directly to mobile phones and email accounts, the courts have analyzed privacy in these newer domains by analogizing to homes, documents, and the like. So too, the courts should analogize to human learning when addressing generative AI.

There is also much to be said for intellectual consistency. While it may trouble many people philosophically to recognize the similarities between human and machine learning, the burden should be on those who want to treat human and machine learning as incomparable phenomena for copyright purposes, despite the similarities. Considering that the distinction between human and machine cognition will surely narrow as AI technology progresses, and policies that downplay the similarities are unlikely to stand the test of time.

Finally consider that the analogy between human and machine learning can work in both directions. Policies that treat the ingestion of copyrighted material for learning purposes as infringement when performed by a generative AI model may someday blur the lawfulness of the same use of copyrighted material for human learning, especially as technology narrows the distinction between the two.

#### Additional protection against derivative works

Even putting aside the human analogy, the approach taken by recent lawsuits – that is, defining the use of copyrighted materials to train generative AI models, without more, as copyright infringement – is unlikely to be a robust solution to protecting the rights of creators. But before discussing this in more detail, we discuss how the alternative approach – that is, protecting copyrights by focusing on a model's outputs – can be strengthened by policymakers. Specifically, Congress should make two changes to the Copyright Act.

Congress should specify that the transformative nature of a derivative work, which weighs in favor of finding that the work is fair use, is not available to works produced by generative AI, unless the potential infringer can show that the transformative quality is a product of a human's prompts. This modification to existing law makes sense when we consider that a transformative work is one with "a further purpose or different character" than the original work, as the Supreme Court explained in *Andy Warhol Foundation*.

Determining the purpose of a derivative work presumes intent on the part of its creator. So too for a different character that is intentional. As impressive as generative AI models are, it is not

claimed that they have anything akin to human intent with regard to the nature of the outputs they produce. Therefore, these models cannot genuinely meet the Supreme Court’s definition of a transformative work.

A second statutory change Congress should make is to specify that the threshold of “substantial similarity” necessary to find that a work is derivative should be lower when the work is produced by generative AI, when there is evidence that the original work was in the training dataset. This makes sense because of the possibility that the presence of the original work among the training materials indirectly contributed – by influencing the relationships learned by the neural network – to the substantial similarity, rather than it being a virtual coincidence.

#### A focus on the inputs to AI models is not a robust solution

Recall that machine learning, like human learning, does not depend on the retention of materials in the training dataset. Once those materials are used to train the weights of the neural network, they can be discarded without any degradation in the performance of a generative AI model. While more permanent storage of training materials is common – whether by AI model builders or dataset curators – and can be an independent basis for copyright infringement, this presents a separate issue from whether the use of copyrighted material merely for training is, in and of itself, copyright infringement. For training purposes, temporary storage is all that is fundamentally necessary.

In pursuit of protecting one’s copyright, pointing to temporary copying by the developers of AI models is a weak peg to hang one’s hat on. For one thing, it is not fundamentally different from what humans do when they learn from examples. For convenience sake, humans often intentionally make copies of the materials – music, art, articles – that they use as learning examples. And even when they don’t, their computers make temporary copies of the songs, images, and text they use to master a skill. Yet all of that copying is generally accepted as fair use.

As the Electronic Frontier Foundation has pointed out:

“Temporary copying” of data is fundamental to how computing works in general, especially on the Internet. For example, ... browser cache files are stored on servers to speed up the loading of websites, and copies of visited pages are stored in a temporary Internet files folder on your hard drive, speeding up the loading process for those websites the next time you visit them.”<sup>7</sup>

In recognition of this fact, as EFF notes, U.S. courts have generally held that temporary copying is either not subject to the Copyright Act or is fair use.

It is worth noting that developing a generative AI model doesn’t truly require even a temporarily stored training dataset. If copying made the developers liable for infringement, they could instead construct a training process that consisted of scrolling through the publicly available training materials stored on the internet, rather than gathering those materials into a dataset.

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<sup>7</sup> [https://www.eff.org/files/filenode/temporary\\_copies\\_fnl.pdf](https://www.eff.org/files/filenode/temporary_copies_fnl.pdf)

While it would make for a slower training process, the point is that little more than trivial copying is fundamentally necessary for training, such that those seeking copyright protection would be advised to hang their hats elsewhere.

Another reason why a focus on the copying of training materials is a misguided strategy is that is not aimed at the real threat to copyright holders. Consider that prior to the emergence of generative AI, more simple neural network models – typically classification and scoring models – were trained on large amounts of data (numerical, visual, acoustic, textual, and the like), some portion of which was copyrighted. Yet there was little or no objection from the copyright holders. The recent explosion in protests and lawsuits by copyright holders is motivated largely by the fear that the outputs of generative AI will negatively affect the potential market for their copyrighted works.

While that is a legitimate concern and is, in fact, the fourth factor in fair use analysis, it is a concern focused entirely on the outputs of generative AI. It would be a concern to human creators whether or not their works were used to train generative AI. To the extent that copyright holders focus on the copying of copyrighted materials for training, they are flailing at a peripheral issue and distracting policymakers and the courts from the real competitive threat posed by the outputs of generative AI.

#### Other Protection for Training Materials

Though the use of copyrighted materials to train AI models should be treated as fair use, there are other means for allowing the owners of potential training materials to seek compensation or proper attribution or to opt out of having their works used for training. Congress should work to strengthen those means.

Because the training materials use in building generative AI models come primarily from internet-crawled material,<sup>8</sup> the most promising avenue for addressing the rights of the owners is 1) wiser use of website terms and conditions agreement, including "clickwrap" agreements that require site users to explicitly agree to the terms and conditions, including respecting "Do Not Train" tags, and 2) stronger enforcement when those agreements are breached. Congress should act to provide stronger enforcement mechanisms, as well as to facilitate the use of collective licensing schemes.

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<sup>8</sup> See <https://www.brookings.edu/articles/the-politics-of-ai-chatgpt-and-political-bias/>