

Before the United States Patent and Trademark Office  
Department of Commerce

Comment Regarding Request for Comments on Intellectual  
Property Protection for Artificial Intelligence Innovation

Docket No. PTO-C-2019-0038

Comment of OpenAI, LP  
Addressing Question 3

Introduction

This is a submission from OpenAI, LP (“OpenAI”) in response to Question 3 of the Request for Comments on Intellectual Property Protection for Artificial Intelligence Innovation from the United States Patent and Trademark Office (“USPTO”). We’ll mainly be responding to the first part of the question, which reads “To the extent an AI algorithm or process learns its function(s) by ingesting large volumes of copyrighted material, does the existing statutory language (e.g., the fair use doctrine) and related case law adequately address the legality of making such use?”

<sup>1</sup> This submission makes three points:

- I. Under current law, training AI systems constitutes fair use.
- II. Policy considerations underlying fair use doctrine support the finding that training AI systems constitute fair use.
- III. Legal uncertainty on the copyright implications of training AI systems imposes substantial costs on AI developers and so should be authoritatively resolved.

OpenAI, LP is an artificial intelligence (“AI”) research company based in San Francisco whose mission is to ensure that artificial general intelligence (“AGI”) benefits all of humanity, and is attempting to build safe and beneficial AGI. OpenAI’s work is primarily built around three areas: technical capabilities research and development; AI safety research and development; and policy work. For this response, we draw on our experience in developing cutting-edge technical AI systems, including by the use of large, publicly available datasets that include copyrighted works.<sup>2</sup>

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<sup>1</sup> 84 Fed. Reg. 58,141 (Oct. 30, 2019).

<sup>2</sup> As copyright protection arises automatically when an author creates an original work and fixes it in a tangible medium, see 17 U.S.C. § 102, the vast majority of content posted online is protected by U.S. copyright laws.

## AI Systems and Synthetic Content

Modern AI systems require large amounts of data. For certain tasks, that data is derived from existing publicly accessible “corpora” (singular: “corpus”) of data that include copyrighted works. By analyzing large corpora (which necessarily involves first making copies of the data to be analyzed), AI systems can learn patterns inherent in human-generated data and then use those patterns to synthesize similar data which yield increasingly compelling novel media in modalities as diverse as text, image, and audio.

For example, OpenAI’s GPT-2 natural language processing (“NLP”) model<sup>3</sup> was trained<sup>4</sup> on “over 8 million documents for a total of 40 GB of text” derived from various Internet sources.<sup>5</sup> This trained model attained state-of-the-art results in a variety of natural language generation tasks.<sup>6</sup> Similarly, OpenAI’s MuseNet music generation model,<sup>7</sup> which uses a similar underlying algorithm as GPT-2, was trained on thousands of MIDI audio files. It can output unique MIDI files meant to sound like a specific genre or artist<sup>8</sup> without actually copying any part of any particular song.

AI systems like GPT-2 and MuseNet are part of a broader trend in the advancement of AI technology. Progress in the fields of synthetic image generation has been particularly rapid and impressive, as the following graphic shows:

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<sup>3</sup> Alec Radford & Jeffrey Wu et al., Language Models are Unsupervised Multitask Learners (2019) (unpublished manuscript), <https://perma.cc/MG4Q-T2F8>; Alec Radford & Jeffrey Wu et al., *Better Language Models and Their Implications*, OPENAI: BLOG (Feb. 14, 2019), <https://openai.com/blog/better-language-models/> [<https://perma.cc/J6TP-FL34>].

<sup>4</sup> In AI, “training” refers to the process by which an AI model learns patterns from the data input by its programmers.

<sup>5</sup> Radford & Wu et al., Language Models are Unsupervised Multitask Learners, *supra* note 3, at 3. A list of the top 1,000 Internet domains included in the GPT-2 corpus is available at Jack Clark, *gpt-2/domains.txt*, GITHUB (Aug. 19, 2019), <https://github.com/openai/gpt-2/blob/master/domains.txt> [<https://perma.cc/U3NJ-ZH6W>].

<sup>6</sup> Radford & Wu et al., Language Models are Unsupervised Multitask Learners, *supra* note 3, at 4–7.

<sup>7</sup> Christine Payne, *Musenet*, OPENAI: BLOG (Apr. 25, 2019), <https://openai.com/blog/musenet/> [<https://perma.cc/M67E-729X>].

<sup>8</sup> See *id.*



Figure 1: Rapid progress in synthetic generation of human faces via generative adversarial networks (“GANs”).<sup>9</sup>

Progress in text generation has been similarly dramatic, as this table indicates:

Sutskever et al. (2011) <sup>10</sup>	Radford & Wu et al. (2019)
<b>The meaning of life is</b> the tradition of the ancient human reproduction: it is less favorable to the good boy for when to remove her bigger.	<b>The meaning of life is</b> to live a life of meaning, not to enjoy life and pass it by.

Table 1: Rapid progress in synthetic generation of natural language based on a common human input (red).

We can expect much more powerful AI systems to be developed in the coming years and it’s likely that the outputs of such systems will be increasingly compelling to humans. This raises important questions about the legal status of these systems, such as: does copyright law’s protection of an author’s original expression impede AI systems from generating insights about that expression? For the rest of this submission, we will explain why we believe that training of generative AI systems constitutes fair use under current law, and why this is the appropriate conclusion from a policy perspective.<sup>11</sup>

<sup>9</sup> Image from @goodfellow\_ian, TWITTER (Jan. 14, 2019, 4:40 PM), [https://twitter.com/goodfellow\\_ian/status/1084973596236144640](https://twitter.com/goodfellow_ian/status/1084973596236144640) [<https://perma.cc/D7XZ-C8GW>].

<sup>10</sup> Ilya Sutskever et al., Generating Text with Recurrent Neural Networks 7 (2011) (unpublished manuscript), <https://www.cs.utoronto.ca/~ilya/pubs/2011/LANG-RNN.pdf> [<https://perma.cc/8QRM-3N9D>].

<sup>11</sup> This submission largely does not address the copyright implications of the outputs of AI systems.

## Discussion

### I. Under Current Law, Training AI Systems Constitutes Fair Use.

17 U.S.C. § 107 establishes the fair use defense to copyright infringement. The statute instructs courts to consider the following factors:

- (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
- (2) the nature of the copyrighted work;
- (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- (4) the effect of the use upon the potential market for or value of the copyrighted work.<sup>12</sup>

In *Campbell v. Acuff-Rose Music*,<sup>13</sup> the Supreme Court stressed the importance of the first factor, which inquires into how “transformative” the use of the copyrighted work is.<sup>14</sup> The Court held that:

Although such transformative use is not absolutely necessary for a finding of fair use, the goal of copyright, to promote science and the arts, is generally furthered by the creation of transformative works. Such works thus lie at the heart of the fair use doctrine's guarantee of breathing space within the confines of copyright, and the more transformative the new work, the less will be the significance of other factors, like commercialism, that may weigh against a finding of fair use.<sup>15</sup>

We submit that proper application of fair use factors requires a finding of fair use, especially considering the highly transformative nature of training AI systems. This conclusion is strengthened by reference to existing analogous case law holding that the reproduction of copyrighted works as one step in the process of computational data analysis is a fair use of those works.

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<sup>12</sup> 17 U.S.C. § 107.

<sup>13</sup> 510 U.S. 569 (1994).

<sup>14</sup> See *id.* at 579 (“The central purpose of this investigation is to see, in Justice Story’s words, whether the new work merely ‘supersede[s] the objects’ of the original creation, or instead adds something new, with a further purpose or different character, altering the first with new expression, meaning, or message; it asks, in other words, whether and to what extent the new work is ‘transformative.’” (citations omitted) (quoting *Folsom v. Marsh*, 9 F. Cas. 342, 348 (C.C.D. Mass. 1841))).

<sup>15</sup> *Id.*

## A. The 17 U.S.C. § 107 Factors Support A Finding of Fair Use.

Straightforward application of the four factors listed in 17 U.S.C. § 107 support a finding of fair use. Training AI systems scores particularly well on the first and fourth factors, which are the most important of the four.<sup>16</sup>

1. “The purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes.”

This factor asks “whether the new work merely ‘supersede[s] the objects’ of the original creation, or instead adds something new, with a further purpose or different character, altering the first with new expression, meaning, or message; it asks, in other words, whether and to what extent the new work is ‘transformative.’”<sup>17</sup>

Training of AI systems is clearly highly transformative. Works in training corpora were meant primarily for human consumption for their standalone entertainment value. The “object of the original creation,” in other words, is direct human consumption of the author’s *expression*.<sup>18</sup> Intermediate copying of works in training AI systems is, by contrast, “non-expressive”:<sup>19</sup> the copying helps computer programs learn the patterns inherent in human-generated media. The aim of this process—creation of a useful generative AI system—is quite different than the original object of human consumption.<sup>20</sup> The output is different too: nobody looking to read a specific webpage contained in the corpus used to train an AI system can do so by studying the AI system or its outputs. The new purpose and expression are thus both highly transformative.<sup>21</sup>

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<sup>16</sup> See *Authors Guild v. Google, Inc.*, 804 F.3d 202, 213–14 (2d Cir. 2015).

<sup>17</sup> *Campbell*, 510 U.S. at 579 (citations omitted) (quoting *Folsom*, 9 F. Cas. at 348).

<sup>18</sup> See Matthew Sag, *Copyright and Copy-Reliant Technology*, 103 N.W. L. REV. 1607, 1638 (2009) (“[C]opyright law appears to embrace a general concept of expressive substitution. To the extent that communication of original expression to the public is the touchstone of copyright infringement, it follows that copyright liability should not ordinarily be found in circumstances where the use in question is incapable of giving rise to any expressive communication.”)

<sup>19</sup> See *generally id.* at 1631 (“Preserving the functional force of the idea–expression distinction in the digital context requires a slightly different application: copying for purely nonexpressive purposes, such as the automated extraction of data, should not be regarded as infringing.”).

<sup>20</sup> The transformativeness of the *purpose* of the use matters more than the transformativeness of the resulting *expression*. See R. Anthony Reese, *Transformativeness and the Derivative Work Right*, 31 COLUM. J.L. & ARTS 101, 119 (2008) (“Though transformativeness for fair use analysis could involve both the purpose for which the defendant is using the copyrighted work and the alterations that the defendant has made to that work’s content, the circuit court cases suggest that it is the former, rather than the latter, that really matters. Thirty four of the appellate opinions, in 31 cases, expressly addressed transformativeness as part of the first-factor analysis. In all of those opinions, when the court found that the defendant had a transformative purpose for her use, the court found that the transformativeness inquiry weighed in favor of fair use, regardless of whether the court viewed the defendant as having transformed the actual content of the plaintiff’s work in any way. Indeed, in all of the cases where transformativeness was found based on the defendant’s transformative purpose, the opinion’s ultimate conclusion was that the use was, or was likely to be, fair.”).

<sup>21</sup> *Cf. Sag, supra* note 18, at 1647 (“[T]he more nonexpressive the use of a copyrighted work is, the less it substitutes for the author’s original expression. As such, courts should regard primarily nonexpressive

While some AI systems are commercial, “[t]he language of the statute makes clear that the commercial or nonprofit educational purpose of a work is only one element of the first factor enquiry into its purpose and character.”<sup>22</sup> Indeed, courts have rejected the argument that commercial fair use is by its nature invalid: “Congress could not have intended such a broad presumption against commercial fair uses, as nearly all of the illustrative uses listed in the preamble paragraph of § 107 are generally conducted for profit in this country.”<sup>23</sup> Furthermore, “the more transformative the new work, the less will be the significance of other factors, like commercialism, that may weigh against a finding of fair use.”<sup>24</sup> Given the highly transformative use of the original works, the commercial nature of the AI systems being trained should be insignificant.<sup>25</sup>

## 2. “The nature of the copyrighted work.”

The second factor is poorly defined, and is sometimes thought to refer to whether the copyrighted work is fictional or not.<sup>26</sup> However, this factor “has rarely played a significant role in the determination of a fair use dispute.”<sup>27</sup>

AI systems may train on many different forms of media. Thus, the application of this prong will vary on a case-by-case basis. Nevertheless, as with other cases, it should not play “a significant role”<sup>28</sup> in the fair use determination, especially given the strength of the fair use case on the first and fourth factors.

## 3. “The amount and substantiality of the portion used in relation to the copyrighted work as a whole.”

This factor asks whether “‘the quantity and value of the materials used,’ are reasonable in relation to the purpose of the copying.”<sup>29</sup>

Corpora used in training AI systems sometimes contain nearly all content of sampled works.<sup>30</sup> However, “[w]hat matters in such cases is not so much ‘the amount and substantiality of the

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uses as equivalent (but not identical) to highly transformative uses—their ‘purpose and character’ is such that they do not merely supersede the objects of the original creation. In addition, the same logic that dictates that the more transformative a work is, the less significant the other factors become, also applies to nonexpressive uses.” (footnotes omitted)).

<sup>22</sup> Campbell, 510 U.S. at 584.

<sup>23</sup> Google, 804 F.3d at 219 (quoting Campbell, 510 U.S. at 584).

<sup>24</sup> Campbell, 510 U.S. at 579.

<sup>25</sup> Furthermore, most of the cases we reference by analogy *infra* § I(B) found fair use by for-profit defendants.

<sup>26</sup> See Google, 804 F.3d at 220.

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> Campbell, 510 U.S. at 586 (quoting Folsom, 9 F. Cas. at 348).

<sup>30</sup> Cf. Radford & Wu et al., Language Models are Unsupervised Multitask Learners, *supra* note 3, at 3 (“The resulting dataset, WebText, contains the text subset of . . . 45 million links.”).

portion used' *in making a copy*, but rather the amount and substantiality of *what is thereby made accessible* to a public for which it may serve as a competing substitute."<sup>31</sup> As long as the corpus is not made accessible to the reading public, therefore, this factor favors a finding of fair use.

Furthermore, such sampling is reasonable—and indeed necessary—to the highly transformative purpose for which it is used. AI systems perform best when they are trained on larger amounts of data.<sup>32</sup> Increasing the amount of training data available to the system increases the output system's accuracy and therefore utility:<sup>33</sup>

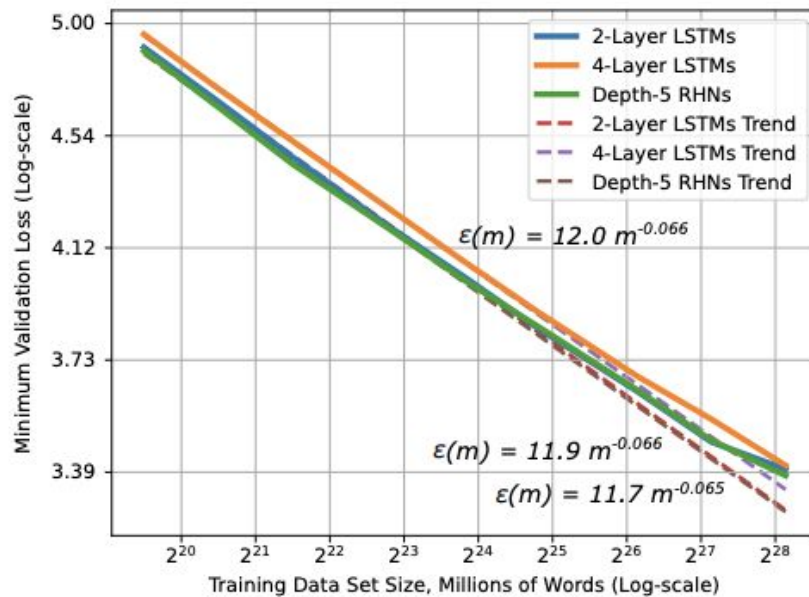


Figure 2: Language model “loss” (roughly, the error rate of a model) as a function of training dataset size.<sup>34</sup>

Thus, non-expressive use of entire works during training is reasonably necessary to the transformative purpose of creating AI systems.

<sup>31</sup> Google, 804 F.3d at 202; cf. James Grimmelmann, *Copyright for Literate Robots*, 101 IOWA L. REV. 657, 664 (“Verbatim copying of a complete work will be protected as fair use if the copy is used solely as input to a process that does not itself use the works expressively. Or, to put it a little more provocatively, nonexpressive uses do not count as reading. They are not part of the market that copyright cares about, because the author’s market consists only of readers.” (footnote omitted)).

<sup>32</sup> Cf. *id.* (“Our approach motivates building as large and diverse a dataset as possible in order to collect natural language demonstrations of tasks in as varied of domains and contexts as possible.”).

<sup>33</sup> It is true that each work in a training corpus makes a minimal contribution to the overall model, and thus that loss of one work from the training corpus is not very detrimental to AI system quality. However, holding that training AI systems constitutes infringement would dramatically reduce the size of available corpora (by demanding removal or substantial redaction of copyrighted works in the corpora), and thus lead to significant reductions in model quality.

<sup>34</sup> Figure taken from Joel Hestness et al., *Deep Learning Scaling is Predictable, Empirically* 7 (Dec. 1, 2017) (unpublished manuscript), <https://arxiv.org/pdf/1712.00409.pdf>.

4. “The effect of the use upon the potential market for or value of the copyrighted work.”

Training AI systems should not, by itself, harm the market for or value of copyrighted works in training corpora. Since such corpora are consumed by machines, not humans, the authors should lose no potential audience due to the use of their works in the corpus itself.<sup>35</sup>

Authors may object that the *outputs* of generative AI systems will harm the value of their works.

<sup>36</sup> We address this objection in Section II.

## B. Analogous Cases Involving Large Digital Corpora Support A Finding of Fair Use.

Prior cases have generally supported a finding of fair use for uses of large digital corpora that were less transformative than the training of AI systems. *A fortiori*, training AI systems should be considered fair use.

Perhaps the most compelling case on point is *Authors Guild v. Google*.<sup>37</sup> There, search engine Google digitally scanned “tens of millions of books” without their authors’ permission for inclusion in a searchable digital database.<sup>38</sup> Users could search that database for specific words or phrases, and Google would also reveal small “snippets” of text from books containing the matching terms.<sup>39</sup> The Second Circuit held that both the search and snippet functions constituted fair use given their highly transformative nature (the first § 107 factor)<sup>40</sup> and the fact that they largely did not substitute for the authors’ protected expression in the scanned books (the fourth factor).<sup>41</sup> The strength of Google’s case on the transformativeness and non-substitution claims is exemplified by the fact that Google had a weak case on the third factor since it copied entire works<sup>42</sup> and on other aspects of the first factor since it is a for-profit corporation.<sup>43</sup>

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<sup>35</sup> Cf. Benjamin L. W. Sobel, *Artificial Intelligence’s Fair Use Crisis*, 41 *COLUM. J.L. & ARTS* 45, 51–52 (2017) (“Just as copyright treats machines as too dumb to count as authors, it also treats machines as too dumb to count as readers. If machines cannot create authorial expression by themselves, it makes sense to infer that machines cannot engage with or appreciate that expression, either.” (footnote omitted)).

<sup>36</sup> Cf. *Campbell*, 510 U.S. at 590 (“[The fourth factor] requires courts to consider not only the extent of market harm caused by the particular actions of the alleged infringer, but also ‘whether unrestricted and widespread conduct of the sort engaged in by the defendant . . . would result in a substantially adverse impact on the potential market’ for the original.” (quoting 3 M. NIMMER & D. NIMMER, *NIMMER ON COPYRIGHT* § 13.05[A][4], p. 13–102.61 (1993))).

<sup>37</sup> 804 F.3d 202 (2d Cir. 2015).

<sup>38</sup> See *id.* at 207.

<sup>39</sup> See *id.*

<sup>40</sup> Cf. *id.* at 214–19.

<sup>41</sup> See *id.* at 223–25.

<sup>42</sup> See *id.* at 221–23.

<sup>43</sup> See *id.* at 219. The second factor—whether the copyrighted works are factual or fictional—did not play a role in the case, and is rarely significant in fair use cases generally. See *id.*



Google cited heavily to *Authors Guild v. HathiTrust*,<sup>44</sup> a factually similar and similarly decided case. There, defendant HathiTrust also scanned whole copyrighted books into a searchable database.<sup>45</sup> Unlike Google’s database, HathiTrust searches would only tell users *where* and *how frequently* a searched term appeared in their database—it would not show them snippets containing the searched term.<sup>46</sup> The Second Circuit held that this constituted fair use.<sup>47</sup>

Several cases involving large-scale fair use of digital images are also instructive. *Perfect 10 v. Amazon.com*<sup>48</sup> and *Kelly v. Arriba Soft*<sup>49</sup> both held that Internet search engines’ use of “thumbnail” images—small versions of copyrighted images—was fair use.<sup>50</sup> Especially important to their conclusion was the fact that the search engines’ thumbnails served a “fundamentally different use”<sup>51</sup>—directing Internet users to images relevant to search terms—than the original authors.<sup>52</sup>

Training AI systems is more transformative than these examples, and therefore *a fortiori* has a stronger fair use claim. The above use cases tend to summarize or otherwise increase access to specific works. The semantic content of the individual works there remained largely unchanged, and the successful fair use claims are based on the ease of accessibility those uses provide. By contrast, AI systems go well beyond preserving the content of individual works by learning *patterns* in their whole training corpus and then using those patterns to generate entirely novel media.

Well-constructed AI systems generally do not regenerate, in any nontrivial portion, unaltered data from any particular work in their training corpus.<sup>53</sup> Indeed, the entire utility of such systems

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<sup>44</sup> 755 F.3d 87 (2d Cir. 2014).

<sup>45</sup> See *id.* at 91.

<sup>46</sup> See *id.*

<sup>47</sup> See *id.* at 97–101.

<sup>48</sup> 508 F.3d 1146 (9th Cir. 2007).

<sup>49</sup> 336 F.3d 811 (9th Cir. 2003).

<sup>50</sup> See *Perfect 10*, 508 F.3d at 1168; *Arriba*, 336 F.3d at 815.

<sup>51</sup> *Perfect 10*, 508 F.3d at 1168; see also *Arriba*, 336 F.3d at 819 (“*Arriba’s* use of the images serves a different function than *Kelly’s* use—improving access to information on the internet versus artistic expression.”).

<sup>52</sup> See *Perfect 10*, 508 F.3d at 1165; *Arriba*, 336 F.3d at 819.

<sup>53</sup> Such a result would be an example of undesirable *overfitting*—a failure to learn the underlying patterns in the corpus that make the works in that corpus meaningful. One can compare an overfit language model (for example) to a program that can repeat any sentence it has heard before that began with an input phrase but cannot generate entirely novel (or unheard) phrases beginning with that phrase. One could rightly claim that such a model failed to “learn” the language but merely “memorized” the corpus. See generally Pedro Domingos, *A Few Useful Things to Know about Machine Learning*, 55 COMM’NS ACM 79 (2012), <https://homes.cs.washington.edu/~pedrod/papers/cacm12.pdf> [<https://perma.cc/NK97-X7G2>] (“The fundamental goal of machine learning is to generalize beyond the examples in the training set. This is because, no matter how much data we have, it is very unlikely that we will see those exact examples again at test time. . . . Doing well on the training set is easy (just memorize the examples).”).

“Differential privacy” work attempts to ensure that outputs will *provably* be distinct from all inputs. See,

is dependent on the fact that, by learning patterns from its training corpus, an AI system can eventually generate media that shares some commonalities with works in the corpus (in the same way that English sentences share some commonalities with each other by sharing a common grammar and vocabulary) but cannot be found in it. Furthermore, since such patterns only emerge after consuming an enormous number of works, each single work consumed in the training process contributes very little to the overall AI system.

We thus submit that use of copyrighted works in training AI systems is squarely in line with these and other “non-expressive” fair use cases.<sup>54</sup> We therefore expect future courts to straightforwardly deem any challenged training to be non-expressive fair use.

## II. Policy Considerations Support Fair Use Determination.

The above considerations explain why we believe training AI systems is fair use as a matter of current law. This Section further explains why policy considerations also support that conclusion.

### A. Holding That Training AI Systems is Infringement Would Severely Hinder Creative AI Research, Thus Stifling the Very Creativity Copyright is Supposed to Promote.

AI systems have enormous potential societal benefits. For example, we expect natural language models like GPT-2 to eventually help perform a large number of useful tasks such as:

- published literature analysis;
- generating medical reports;
- autocompleting software code;
- general writing assistance and autocompletion;
- language translation;
- generating art;
- enhancing videogaming;
- digital assistants; and
- answering medical questions.<sup>55</sup>

Benjamin Sobel offers a more qualitative understanding of what this might mean:

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e.g., *Database Privacy*, MICROSOFT, <https://www.microsoft.com/en-us/research/project/database-privacy/> [<https://perma.cc/V42P-CJCL>]; Nicholas Papernot & Ian Goodfellow, *Privacy and Machine Learning: Two Unexpected Allies?*, CLEVERHANS BLOG (April 29, 2018), <http://www.cleverhans.io/privacy/2018/04/29/privacy-and-machine-learning.html> [<https://perma.cc/GPF9-VBCU>].

<sup>54</sup> See Sag, *supra* note 18; Sobel, *supra* note 35, at 51–57.

<sup>55</sup> See Irene Solaiman et al., *Release Strategies and the Social Impacts of Language Models 5–6* (Nov. 2019) (unpublished manuscript), <https://arxiv.org/pdf/1908.09203.pdf>.

Machine learning promises to streamline legal drudgery and bring a form of advocacy to parties who otherwise would not be able to access it. Writers who were employed to perform formulaic composition might be able to devote their energies to more creative forms of self-expression once machines supplant them. Professors might find more time to do research if an artificial intelligence engine automatically emailed with students for them.<sup>56</sup>

Even given the wide variety of uses listed above, it is likely that we have failed to completely foresee all beneficial applications of this technology.

The fair use doctrine “permits courts to avoid rigid application of the copyright statute when, on occasion, it would stifle the very creativity which that law is designed to foster.”<sup>57</sup> AI systems hold immense promise for both creative expression and general economic innovation. Copyright barriers to training AI systems<sup>58</sup> would have “disastrous ramifications”<sup>59</sup> and “could jeopardize the technology’s social value, or drive innovation to a foreign jurisdiction with relaxed copyright constraints.”<sup>60</sup> We thus submit that such barriers would “stifle the very creativity which [copyright] law is designed to foster”<sup>61</sup> and retard “the Progress of Science and useful Arts.”<sup>62</sup>

## B. Other Legal and Policy Tools Better Address Possible Harms from Generative AI Systems

We do not claim that AI systems are invariably beneficial or non-infringing. Rather, we address the narrow question of whether training AI systems on copyrighted data constitutes copyright infringement. Accordingly, we believe there are valid concerns about AI systems, but that they are better addressed by other legal and policy tools.

### 1. Copyright Law Can Address Infringing Outputs of AI Systems.

Generative AI systems might generate *output media* that infringes on existing copyrighted works. We think that this is an unlikely accidental outcome of well-constructed generative AI systems,<sup>63</sup> though it remains possible due to overfitting or developers’ intentions. In such cases,

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<sup>56</sup> Sobel, *supra* note 35, at 80 (footnote omitted).

<sup>57</sup> *Stewart v. Abend*, 495 U.S. 207, 236 (1990) (quoting *Iowa State Univ. Research Found., Inc. v. Am. Broad. Companies, Inc.*, 621 F.2d 57, 60 (2d Cir. 1980)).

<sup>58</sup> The disastrous ramifications of such rigid barriers would extend far beyond AI systems. For example, every major search engine uses a scraping to scan the Internet, copying, analyzing, and indexing web pages in the process. If copyright law makes such acts of copying illegal, the ability to search the internet would be severely impacted.

<sup>59</sup> See Sobel, *supra* note 35, at 80.

<sup>60</sup> *Id.* at 81.

<sup>61</sup> *Abend*, 495 U.S. at 236.

<sup>62</sup> U.S. CONST. art. I, § 8, cl. 8.

<sup>63</sup> See *supra* note 53 and accompanying text.

however, the proper solution is to entertain infringement suits for the outputs (with appropriate defenses, including fair use, available) as a court would for human-generated works.

## 2. Other Tools Exist for Preventing Undesired Scraping.

Other legal and self-help tools are available to website owners who object to “scraping”<sup>64</sup> content from their website. Available legal tools might include state trespass to chattels and breach of contract<sup>65</sup> claims.<sup>66</sup> Available self-help tools include the robots exclusion protocol (“robots.txt”)<sup>67</sup> and blocking website access by specific users.

## 3. Distributive Issues from AI-Generated Non-Infringing Works Should Be Addressed by Other Policies.

One might also worry that generative AI systems will produce content that, while not infringing on any copyrights, will nevertheless endanger original authors’ livelihoods by creating media more efficiently than human authors can.<sup>68</sup>

We note that this concern falls into a broader category of concerns about the relationship between automation, labor, and economic growth. While we agree with the importance of addressing these distributive concerns,<sup>69</sup> we feel strongly that copyright doctrine is not the proper means for doing so.

First, as a doctrinal matter, “no author may copyright facts or ideas. The copyright is limited to those aspects of the work—termed ‘expression’—that display the stamp of the author’s originality.”<sup>70</sup> If an author’s particular expression is not implicated—which by hypothesis they are not for the purposes of this subsection<sup>71</sup>—she has no copyright claim. Copyright law is therefore the wrong categorization of this type of argument.

Second, we believe that such distributive claims are most efficiently addressed through taxation and redistribution,<sup>72</sup> rather than copyright policy.

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<sup>64</sup> See *supra* note 58.

<sup>65</sup> See *hiQ Labs, Inc. v. LinkedIn Corp.*, 938 F.3d 985, 1004 (9th Cir. 2019).

<sup>66</sup> We take no position about whether these tools ought to be available or applicable to training AI systems by Internet scraping; we merely note their existence.

<sup>67</sup> See generally Andrew Sellars, *Twenty Years Of Web Scraping And The Computer Fraud And Abuse Act*, 24 B.U. J. SCI. & TECH. L. 372, 413–14 (2018).

<sup>68</sup> Cf. Sobel, *supra* note 35, at 81–82.

<sup>69</sup> See, e.g., *OpenAI Charter*, OPENAI (Apr. 9, 2018), <https://openai.com/charter/> [<https://perma.cc/J29Y-2PU8>] (“We commit to use any influence we obtain over AGI’s deployment to ensure it is used for the benefit of all . . .”).

<sup>70</sup> *Harper & Row*, 471 U.S. at 547.

<sup>71</sup> An author’s expression may be implicated in training, which we address *supra* §§ I–II(A), or because of a similarity between her works and an output of an AI system, which we address *supra* § II(B)(1). The claims addressed in this subsection are therefore limited to claims that are not infringing by hypothesis.

<sup>72</sup> See generally Louis Kaplow & Steven Shavell, *Why the Legal System Is Less Efficient than the Income Tax in Redistributing Income*, 23 J. LEGAL STUD. 667 (1994) (“[R]edistribution through legal rules offers no advantage over redistributions through the income tax system and is typically less efficient.”).

### III. Uncertainty of the Copyright Implications Imposes Costs on AI Developers.

For the above reasons, we believe that courts would and should rule that training AI systems on copyrighted works constitutes fair use. However, given the lack of case law on point, OpenAI and other AI developers like us face substantial legal uncertainty and compliance costs. Resolving this issue by holding training AI systems to be fair use would eliminate the uncertainty in this area and remove substantial barriers to the development of innovative AI systems.

### Conclusion

We submit that:

- I. Under current law, training AI systems constitutes fair use.
- II. Policy considerations underlying fair use doctrine support the finding that training AI systems constitute fair use.
- III. Nevertheless, legal uncertainty on the copyright implications of training AI systems imposes substantial costs on AI developers and so should be authoritatively resolved.

As leading AI developer, OpenAI is acutely aware of both the promises and perils of issues related to generative AI systems. We hope that US policymakers will continue to allow this area of dramatic recent innovation to proceed without undue burdens from the copyright system. We are also happy to provide additional information on this and related issues.

Respectfully Submitted,

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