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World Intellectual Property Organization  
34, chemin des Colombettes CH-1211  
Geneva 20, Switzerland

**Re: WIPO Conversation on Intellectual Property (IP) and  
Artificial Intelligence (AI)  
Second Session  
Comments of Jessica Fjeld and Mason Kortz  
February 14, 2020**

Dear WIPO Secretariat:

This comment is submitted by Jessica Fjeld, Lecturer on Law at Harvard Law School and Assistant Director of the Harvard Cyberlaw Clinic, and Mason Kortz, Clinical Instructor at the Harvard Cyberlaw Clinic (collectively, the “Commenters”).<sup>1</sup> The Harvard Cyberlaw Clinic (the “Clinic”) is a project of the Berkman Klein Center for Internet & Society. In the last two years, the Clinic has developed a practice in the area of artificial intelligence (“AI”) and intellectual property. Through the Clinic, the Commenters have taken on multiple clients seeking to understand the rights and liabilities that arise when AI is used throughout the innovation process. The Commenters have submitted a number of administrative comments concerning the intersection of AI and intellectual property. Additionally, the Commenters have produced academic scholarship on the topic of AI, art, and copyright.

**I. Patents**

This section comments on the questions posed regarding patents and raises new questions for WIPO to address.

**A. Issue 1: Inventorship and Ownership**

Issue 1, paragraph 7(i) contemplates the possibility that an AI application could be named as the inventor of an invention. However, the current formulation does not raise the subsequent question of what occurs in the event of liability or infringement of the patent. To address these issues, the

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<sup>1</sup> Commenters would like to thank Spring 2020 Cyberlaw Clinic students Andrew Mettry and Jonathan Iwry for their invaluable contributions to this comment.

Commenters propose the following questions (underlined portions indicate comments):

(iv) In the event an AI-generated invention infringes on an existing patent, should specific legal provisions be introduced to address how the owner of that patent can enforce its patent against the infringing technology?

(v) In the event an AI application is listed as the patent owner, should specific legal provisions be introduced to address how the AI application can enforce its patent against potential infringers? For example, should legal provisions be introduced for human beings to enforce patents on behalf of the AI owner?

As AI applications increasingly become more sophisticated by learning and modifying their operations over time, inventions generated by AI applications may infringe on other patented inventions. In the event an AI application is named as the owner of a patent, it will be critical to outline appropriate parameters for liability, given the transient nature of AI technologies. AI use is growing rapidly, so accordingly, AI-patent litigation will correspondingly increase.

There are two aspects of this issue that should be raised in paragraph 7. First, in the event AI infringes on a patented invention, the law ought to identify who precisely is the infringer, whether it be the AI application, the creator of the application, or some other human being. Second, in the event an AI application is the owner of the patent, and potential infringers of the patent are identified – either with or without human intervention – the law ought to address how the patent owner can enforce the patent, and against whom the owner can enforce.<sup>2</sup> Accordingly, the Commenters suggest the above questions to better illustrate the mechanics of infringement.

### **B. Issue 3: Inventive Step or Non-Obviousness**

The Commenters recommend issue 3, paragraph 9(ii) to read as follows:

(ii) Should the standard of a person skilled in the art be maintained where the invention is autonomously generated by an AI application or should consideration be given to replacing the person by an algorithm trained with data from a designated field of art? If the standard takes into account that the invention is generated autonomously by an AI application, should the law maintain two distinct standards (i.e. a human being standard and an AI standard)?

In the United States, the person skilled in the art standard takes into consideration a number of factors, including: “(1) the education level of the

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<sup>2</sup> See 17 U.S.C. § 271.

inventor; (2) types of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) the education level of active workers in the field.”<sup>3</sup> In Europe, the person skilled in the art is “presumed to be a skilled practitioner in the relevant field of technology, who is possessed of average knowledge and ability and is aware of what was general knowledge in the art at the relevant date.”<sup>4</sup>

AI applications that generate inventions will likely impact the person of ordinary skill in the art standard, given that the calculus for the standards in both the United States and Europe could potentially result in a higher standard, and thus render more technologies obvious,<sup>5</sup> if the standard is not articulated correctly.<sup>6</sup> The current formulation of paragraph 9(ii) only asks if the standard should be maintained or altered to take into account potential effects of AI. However, in the event the standard does take into consideration the effects of AI technologies, WIPO should consider whether a separate standard for human inventors should be maintained in the event that AI takes no part in the inventing process.

## II. Copyright and Related Rights

This section comments on the questions posed regarding copyright and raises new questions for WIPO to address.

### A. Issue 6: Authorship and Ownership

Under Issue 6, paragraph 12, WIPO addresses potential concerns regarding the ownership and authorship of AI-generated works. AI-generated works pose important policy questions with respect to ownership. Ownership structures for computer-generated works have been a difficult question for over fifty years.<sup>7</sup> While ownership of the AI application should follow from existing policy on software copyright, and copyright ownership of training data is typically straightforward, complications arise with regard to the copyright ownership of two aspects of AI systems: first, the data structure that is produced when an AI processes inputs, and second, the final output, an AI-generated work.<sup>8</sup>

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<sup>3</sup> *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 697 (1983).

<sup>4</sup> See EPO Guidelines, Part G.

<sup>5</sup> See Ryan Abbott, *Everything Is Obvious*, 66 UCLA L. REV. 2 (2019).

<sup>6</sup> See *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 666 (Fed. Cir. 2000) (“The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.”)

<sup>7</sup> Samantha Fink Hedrick, *I “Think,” Therefore, I Create: Claiming Copyright in the Outputs of Algorithms*, 8 N.Y.U. JOURNAL OF INTELL. PROP. & ENT. LAW 324, 330 (2019).

<sup>8</sup> Jessica Fjeld and Mason Kortz, *A Legal Anatomy of AI-generated Art: Part I*, JOLT DIG. (Nov. 21, 2017) <http://jolt.law.harvard.edu/digest/a-legal-anatomy-of-ai-generated-art-part-i>.

One potential solution, joint ownership, is not addressed by the current questions. This is a common copyright ownership structure which may well be apposite regarding AI technology. To address the issue of joint ownership, the Commenters propose the following additional question:

(iv) In the event copyright can be attributed to AI-generated works, should the law facilitate joint ownership in AI-generated works, between the creator of the existing works on which the AI was trained, the developer of the AI application, the AI application itself, or other entities?

Ownership structures for computer-generated works have been a difficult question for over fifty years.<sup>9</sup> AI-generated works pose important policy questions. While ownership of the AI and the training data is straightforward, ownership of the AI-generated work adds an additional complication. An additional question arises when considering the trained AI that learned from the inputs. Accordingly, the law ought to add clarity with respect to the allocation of ownership rights between each of the stakeholders. Joint ownership has been contemplated since the mid-80s to allocate rights in the AI-generated work.<sup>10</sup> Given that the AI is frequently trained by data that subsist in copyrighted works, the law ought to clarify precisely how to distribute ownership rights between the creator of the data used to train the AI (i.e. the artist), the AI, and its developer. By posing the above question, WIPO will be able to further explore the potential of joint ownership to properly allocate rights between interested parties and has the opportunity to help provide clarity in the unanswered and prolonged debate of ownership.

## **B. Issue 7: Infringement and Exceptions**

Under Issue 7, paragraph 13, WIPO addresses potential implications of an AI application learning from data that may represent creative works that are subject to copyright. However, the Commenters believe that the introduction to the corresponding questions need additional motivation for those submitting answers to better understand the question, as follows:

13. An AI application can produce creative works by learning from data with AI techniques such as machine learning. The data used for training the AI application may represent creative works that are subject to copyright (see also Issue 10). Several issues arise in this regard. There are a number of arrangements that may give rise to potential copyright infringement, including the use of data subsisting in copyright works for training purposes. AI has created the

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<sup>9</sup> Pamela Samuelson, *Allocating Rights in Computer-Generated Works*, 47 U. PITT. L. REV. 1181, 1221 (1986).

<sup>10</sup> *Id.*

need to address these arrangements from a legal and policy perspective. Potential legal arrangements include a legal exception or a specific legal provision creating a compulsory licensing scheme for use of copyrighted data in training AIs.

The current list of questions that WIPO has posed nicely helps in guiding the conversation with respect to infringement and exceptions. However, when commenters begin to address these questions, it will be useful for them to understand precisely what issues may arise, including compulsory licensing<sup>11</sup> and potential specific legal provisions such as fair use that provide AI-generated works an exception to infringement.<sup>12</sup>

### **C. Issue 8: Deep Fakes**

Under Issue 8, paragraph 14, WIPO addresses potential ways to address “deep fakes” from a legal standpoint. It is worth considering which legal or policy measures would be most useful for countering the use of AIs in creating deep fakes or other forms of media intended to mislead members of the public. Recent advances in using AI to mimic living people make it increasingly difficult to distinguish authentic and fabricated portrayals of real people and events. With widespread concern over discourse involving disinformation and “fake news,” this technology adds fuel to ongoing concerns over objectivity and reliability in journalism and the political sphere, especially insofar as they involve digital media. Commenters propose the following question:

(ii) Is copyright an appropriate vehicle for regulating misuse of information, or should such regulation be set up in a separate statutory scheme?

States such as California, for example, have recently moved toward laws explicitly banning non-consensual pornography under a tort framework, allowing litigation against distributors of revenge porn.<sup>13</sup> This could provide a useful reference point or template for non-consensual depictions of real persons in ways that qualify as mis- or disinformation.

Copyright infringement has often been used as a vehicle to proscribe and impose liability for misuse of information when protected works have been copied in the process. However, the rationale on which copyright infringement claims are based is arguably tangential to the more direct policy motivations for prohibiting deep fakes. Moreover, there might be cases in which deep fakes misrepresent real persons in ways that evade

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<sup>11</sup> See 17 U.S.C. § 115; see generally Benjamin L. W. Sobel, *Artificial Intelligence’s Fair Use Crisis*, 41 COLUMBIA J.L. & ARTS 45 (2017).

<sup>12</sup> See Sobel, 41 COLUMBIA J.L. & ARTS J.L. & Arts at 61.

<sup>13</sup> PrideLegal, *Revenge Porn Laws in California, Updated 2019*, PRIDELEGAL (Jul. 9, 2019), <https://pridelegal.com/revenge-porn-laws/>.

liability under copyright doctrine. In the interest of both effectiveness and transparency, it is worth considering whether to rely on the current pseudo-tort framework grounded in copyright or to instead move toward a framework more explicitly grounded in the intended policy rationale—namely, promoting public policy by regulating misinformation.

#### **D. Issue 9: General Policy Issues**

Issue 9, paragraph 16 provides an opportunity to raise general questions related to AI and copyright. Policymakers interested in AI's implications for copyright law should also consider how the recognition of moral rights might apply to AI. Accordingly, the Commenters propose the following question:

(v) In the event that moral rights can be assigned for AI-generated works, would the creator of the inputs be assigned those rights? Would those differ from works generated by humans by traditional means?

The concept of moral rights offers a legal mechanism by which creators maintain certain aspects of their relationship to their work, even when they no longer own that work for copyright purposes. Specifically, moral rights entail the creator's right to be credited for their work and to prevent their work from being used in ways that would be considered degrading. Should moral rights be available to AIs or their creators in certain cases? If so, would this be viewed as an extension of AI having ownership of creative works, or could it instead be treated as a moderate and pragmatic alternative?

Professor Margaret Jane Radin at the University of Toronto argues that the theory of moral rights is grounded in a creator's humanity and personhood and reflects an effort to protect the personal bond between the creator and their work.<sup>14</sup> Professor Margot Kaminski at Colorado Law School argues that this theory presupposes a creator with distinctly human qualities, and that countries favorable to moral rights therefore might be less inclined to extend copyright protection to works generated through AI than would countries that approach copyright protection through a cost-benefit lens.<sup>15</sup> Professor Shlomit Yanisky-Ravid at Yale Law School asserts that the purpose of American copyright law is to promote the creation of new works by ensuring exclusivity of ownership. She advocates a pseudo-employment framework granting copyright ownership and moral rights to the AI's creator, treating the AI's creation as a work produced within the scope of

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<sup>14</sup> See Margaret Jane Radin, *Property and Personhood*, 34 STAN. L. REV. 957 (1982).

<sup>15</sup> Margot E. Kaminski, *Authorship, Disrupted: AI Authors in Copyright and First Amendment Law*, U.C. DAVIS L. REV. 589 (2017).

the AI's employment.<sup>16</sup> The proposed question would elicit similar varied responses to the question of moral rights in AI-generated works.

### III. Data

This section comments on the concerns raised over data and raises new questions for WIPO to address.

#### A. Issue 10: Further Rights in Relation to Data

Issue 10, paragraphs 17-23 addresses the implications of innovations in IP rights over data. However, this section does not address the potential impact of new property rights regarding the transfer of data, especially personal data. The Commenters propose the following additional question:

(ix) If new IP rights were to be considered for data, what restrictions should be placed on the sale or transfer of such rights, including rights in personal data?

It is worth considering whether conceptualizing personal data in terms of a property law framework promotes or undermines other social values, including privacy. Some policymakers and politicians have called for personal data to be recognized as a form of property in which individuals have property rights. American Democratic presidential candidate Andrew Yang, for instance, has argued in favor of data-as-property as a means of addressing concerns over abuse of privacy.<sup>17</sup> Would a property framework offer an effective buffer against privacy encroachments? Even if it offered a nominally effective means of doing so, would it ultimately promote more transactional attitudes toward data that would undermine fundamental principles of privacy?

The primary benefit of treating data as property is that doing so would provide private parties and consumers a legal avenue for ensuring sole ownership (and enabling exclusion) of their data. Commodifying that data, however, would make it easier to monetize and sell. This could have the unintended consequence of giving data miners stronger incentives to pressure individuals to sell their data, as well as removing some of the roadblocks that might otherwise have discouraged individuals from giving their data away in haste. It is worth expanding the question of whether to treat data as property to explicitly address how this framework would affect monetary incentives for data brokers or other companies trading in personal information.

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<sup>16</sup> Shlomit Yanisky-Ravid, *Generating Rembrandt: Artificial Intelligence, Copyright, and Accountability in the 3A Era—The Human-Like Authors are Already Here—A New Model*, MICH. ST. L. REV. 659 (2017).

<sup>17</sup> Friends of Andrew Yang, *Data as a Property Right*, YANG2020 (2020), <https://www.yang2020.com/policies/data-property-right/>.

Sincerely,



Jessica Fjeld



Mason Kortz