Re: Notice of Inquiry and Request for Comment Regarding Artificial Intelligence and Copyright
Docket No. COLC-2023-0006

Illumina is a global leader in genomic sequencing and in the development of AI systems to accurately and efficiently interpret genomic data. We are grateful for the opportunity to provide feedback to the U.S. Copyright Office on copyright law and policy issues raised by artificial intelligence ("AI") systems.

We believe that AI has the power to transform the genomics industry, and to rapidly accelerate Illumina's mission of improving human health by unlocking the power of the genome. For example, we are already using AI systems today to identify, classify, and annotate genetic variants for a multitude of useful purposes. Our AI systems have helped researchers discover novel drug targets, identify clinically relevant genes, and uncover genetic drivers of rare and undiagnosed diseases.

We acknowledge that not all AI is the same, and the Copyright Office should consider the distinctions between different types of AI models. On one hand, there are large, foundational Generative AI models, trained on large swaths of the internet. On the other hand are more focused models: either Generative AI models that have been fine-tuned for specific domains, or non-Generative AI models tailored to their specific use cases. Our comments here are largely aimed toward the latter – focused, domain-specific models ("Focused AI Models").

The Copyrightability of AI Models and their Outputs

Copyright law, at its core, protects the rights of individuals to their original works of authorship – rights which are enshrined in the Constitution. Any sufficiently *creative* work of human authorship is suitable for copyright protection.[1]

We believe that, in many cases, the development of Focused AI Models undeniably satisfies the human authorship requirement *and* is more than sufficiently creative to meet the established threshold for copyright eligibility. We agree with the Copyright Office that these determinations will necessarily be fact specific and made on a case-by-case basis.

As noted in the *Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence* (March 16, 2023)("2023 Copyright Office Guidance"), the US Supreme Court has defined an author as "[one] to whom anything **owes its origin,** originator, maker; …"[2] It is our position that, in many instances, both Focused AI Models themselves and the output or material produced *via* Focused AI Models can and should be considered a creative work that originates with, or "owes its origin" to, a human. In other words, the human development and input into the AI model itself can under the appropriate circumstances be the "creative input" and/or "intervention from a human author," similar to the manner in which the choices a photographer makes supports human authorship in the output of a photograph.[3] However, we also believe that the threshold and factors relevant to determining "human

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[1] Feist Publication Inc. v. Rural Telephone Service Co., Inc. 499 U.S. 340, 111 S.Ct. 1282, 113 L.Ed.2d 358 (S. Ct. 1991)
[2] *Burrow-Giles Lithographic Co. v. Sarony*, 111 US 53 (S.Ct. 1884) (holding a photograph copyrightable despite use of a camera to give "visible expression" to "ideas in the mind of the author").
[3] U.S. Copyright Office, Compendium of U.S. Copyright Office Practices sec. 313.2 (3d ed. 2021) (''Compendium (Third)'')(stating ''to qualify as a work of 'authorship' a work must be created by a human being'' and that it ''will not register works produced by a machine or

authorship" should be determined through case law in a manner similar to the threshold for creativity and other copyright principles.

Appropriate copyright protection for Focused AI Models and the original outputs produced via assistance from Focused AI Models will incentivize continued development of this technology and the creation of valuable works. Without these protections, authors may not invest the money, time, and/or energy necessary to develop new works.

We also believe that, in addition to incentivizing development, strong copyright protection will encourage Focused AI Model developers to make their models more broadly available. For example, a known feature of many AI models is that, with enough resources and effort, models can be used to reverse engineer their own training data. Without strong copyright protections for both independently created AI models *and* their original outputs, model creators would be limited to contract law remedies to protect their work, and would tend toward closed access to reduce the risk of misappropriation by third parties.

The Copyright Office's Approach to AI

Because the same principles of human authorship and creativity should apply equally to both AI and non-AI works, we believe that the Copyright Office's approach to AI should be similar to that of other works. Unfortunately, however, we find the current Copyright Office Guidelines for works produced by AI technology to be largely inconsistent with historical Copyright Office practices. For example:

- On the issue of originality, the Copyright Office historically has not required applicants to provide a detailed explanation of the independent creative process used by a named author to produce a work of authorship.
- On the issue of authorship, the Copyright Office historically has not required a photographer to identify each of the choices made when taking a photograph to satisfy the minimum threshold of human authorship.

In contrast, the current Copyright Office requirement that applications involving AI technology must describe detailed facts supporting human authorship in the material produced via the AI system[4] is inconsistent with historical Copyright Office practice and sets too high of a bar for registration.

It is important to note that our position regarding the current Copyright Office policies does not contradict well-established legal principles that the core of copyrightability is *human creativity*. However, the issue of precisely *how much* human creativity must occur, and at what point in time the human creativity must occur, is highly fact specific and should be determined on a case-by-case basis by the courts. For this reason, we encourage the Copyright Office to reconsider the current requirement that applicants must disclose their creative steps in order to satisfy the human authorship requirement. We also encourage the Copyright Office to avoid any requirement that human authorship must occur after AI generated output has been produced in order for a work to be copyrightable.

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mere mechanical process that operates randomly or automatically without any ***creative input or intervention from a human author***")(emphasis added).

[4] See, e.g, 2023 Copyright Office Guidance, Part III ("In the case of works containing AI-generated material, the Office will consider whether the AI contributions are the result of 'mechanical reproduction' or instead of an author's 'own original mental conception, to which [the author] gave visible form.' The answer will depend on the circumstances, particularly how the AI tool operates and how it was used to create the final work. This is necessarily a case-by-case inquiry.")

Infringement

We believe in respecting the rights of authors of the underlying data used to train AI models. If a model's output is substantially similar to copyrighted training data, that should be considered infringement, with potential liability for whoever fixes the output in a tangible medium (whether the model creator or the end user) without authorization. This would incentivize AI model creators to obtain the rights to their underlying training data when necessary, and to build models that are less likely to output their training data verbatim. It would also provide for infringement when an AI model end user engineers a prompt that results in infringing output.

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Thank you for the opportunity to submit these comments. We welcome further dialogue with the Copyright Office on these important issues.

Sincerely,

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