

**Responses from Laura Sheridan  
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Post-Hearing Questions for the Record  
From Senator Thom Tillis**

**Hearing before the Senate Judiciary Subcommittee on Intellectual Property: “Artificial  
Intelligence and Intellectual Property - Part 1: Patents, Innovation, and Competition”  
June 7, 2023**

1. Under current U.S. patent law AI cannot be named as an inventor.
  - a. What is the motivation and benefit of attempting to change patent law to allow an AI to be named as an inventor?

Google does not believe that any statutory changes to U.S. inventorship law are needed at this time, including any changes to allow AI to be named as an inventor. We understand that some interested parties may be advocating for such a change on the basis that it will promote the usage of AI in the innovation process. However, in Google’s extensive experience using AI as a tool for innovation, humans are involved in a way that makes them inventors for the resulting innovations. This involvement includes designing the AI system to achieve a specific purpose, analyzing the output of the AI system and appreciating it as inventive, or forming an invention based on the output.

- b. What impact, if any, would this have on innovation – in other words, do you foresee some detriment to innovation due to AI not being able to be named an inventor?

No, we do not foresee any detriment to innovation due to AI not being able to be named an inventor. However, we do have concerns about potential unintended consequences that may result from making any adjustments to inventorship along these lines, as this is an area where fixing one aspect may break another. For instance, it is unclear how a change to inventorship would impact the obviousness assessment for a patent application, including the level of ordinary skill in the art which is used to make this assessment.

- c. If an AI alone cannot be named inventor, what are your thoughts regarding allowing an AI to be named as a co-inventor if named alongside that which we currently consider an inventor (i.e., a “natural person”)?

In Google’s extensive experience using AI as a tool for innovation, humans are involved in a way that makes them inventors for the resulting innovations. This involvement includes designing the AI system to achieve a specific purpose, analyzing the output of the AI system and appreciating it as inventive, or forming an invention based on the output. The invention claimed in any resulting patent application properly reflects the involvement of the technologist, and their usage of the AI as a tool to enable the invention process. In other words, whether there are elements of the claimed invention that may have been appreciated or derived from the usage of the AI system, the subsequent engagement of the technologist with that output, or the activity of

the technologist to bring that output to light, is at a level which would attribute any invention to a human inventor. As a result, we believe that there is no need to name AI as a “co-inventor,” and we have concerns about the unintended consequences that may result from doing so, as we have shared above.

2. The Intellectual Property Office of Singapore has promoted the patenting of AI-related inventions by offering accelerated examination.

Do you think that the USPTO should be doing more to encourage and support AI-related patent applications in the U.S.?

The filing of AI-related patent applications in the U.S. is flourishing. According to a recent [USPTO presentation](#), AI-related patent applications accounted for more than 17% of all patent applications filed in 2020 (slide 7 on hyperlinked presentation). The same [USPTO presentation](#) shows that in 2020, more than 50% of the technology sub-classes examined by the agency had AI-related patents granted (slide 9). We believe that the best way to encourage and support the continued growth of AI-related patent applications in the U.S. is to ensure that patent examiners at the USPTO have the technical training needed to conduct high-quality examination, especially because so many AI-related patents are being issued from areas that are outside of core AI technology areas.

3. In February 2023 the USPTO issued a request for public comments (RFC) seeking stakeholder input on the current state of AI technologies and inventorship issues that may arise in view of the advancement of such technologies.
  - a. What were your key takeaways from this RFC?

Google submitted a [comment](#) in response to the USPTO’s request. In our comment, we explained that although Google is confident that inventorship for innovations brought about by using AI tools is properly held by the technologists – just as it always has been for inventions brought about through the usage of tools – we encouraged the USPTO to shed light on inventorship in general. Inventorship can be a challenging area for patent applicants as it is highly fact dependent and often complicated. In our comment, we explained that guidance from the Office would allow for a clearer conversation between patent applicants and their counsel, which is needed whether or not AI is involved in the innovation process.

- b. Was there anything that wasn’t addressed that should have been?

Yes, we encouraged the USPTO to adopt standardized definitions for the different categories of AI-related inventions so that it is always clear what is, and is not, being discussed. Doing so will provide a helpful framework as these issues grow in complexity and importance. We suggested the [definitions](#) jointly proposed by the Intellectual Property Owners Association and the American Intellectual Property Law Association as a good solution. Those definitions speak to three categories of inventions: inventions on core AI technology, inventions on specific applications of core AI technology, and inventions generated by or using AI.

4. With regard to patent eligibility law, do you agree that the lack of certainty hampers innovation when it comes to the field of AI-related patent applications and patents?

As a holder of one of the largest AI-related patent portfolios according to a [USPTO report](#), Google has extensive experience prosecuting and obtaining AI-related patents. To share our experiences, Google submitted a detailed [comment](#) on the topic of patent eligibility law as it pertains to AI and quantum computing technologies in response to the USPTO's request for comment on the current state of patent eligibility jurisprudence in the U.S. It was our position then, and it remains today, that AI-related patenting is flourishing in the U.S.

The current patent eligibility jurisprudence has not affected our ability to get patents on AI innovations. What has changed since the *Alice* decision is that we need to make sure that we are providing enough detail in our patent applications at the outset. We need to make sure that we are going into depth on the technological problem we are addressing and our technological solution to that problem. And we need to make sure that we are specifically claiming that solution and not just the result. In this sense, *Alice* was a “forcing function” for Google and others to include more detail in patent applications (which has also been helpful for global patent prosecution). We believe this clarification has beneficially resulted in even more information being provided in patent specifications, which empowers researchers to access and to build on more information than ever before.

5. Patent Examiners at the USPTO currently use an agency search tool called Patents End to End (PE2E) to perform prior art searches. This tool leverages AI and is being developed to further support AI search capabilities.

- a. What are your thoughts on this?

As we shared in a recent [comment](#) to the USPTO on patent robustness and reliability, the Google technologists responsible for our patent search tool, [Google Patents](#), also provide machine learning models to the USPTO to help improve the PE2E search tool. The Google team works to understand the details and real-world constraints in patent examination to give guidance on the best product integrations at the USPTO.

- b. How else should the USPTO leverage AI to help with prior art searches?

As we shared in our [comment](#), as a first step we recommend that the USPTO unify patent and non-patent prior art resources within PE2E to further improve the search process. Bringing NPL documents into PE2E means a reduction of examiner effort, improved search quality, and consistent query languages. Today, examiners need to re-run their searches manually across all NPL portals they identify as possibly relevant. This could be tens of sources, each with their own query language.

Integration of these resources within PE2E would allow examiners to leverage improvements such as:

- Searching across many NPL and patent documents with a single query,

- Searching with machine-classified CPCs on NPL for better identification of relevant documents,
- Full boolean query support not usually found on NPL search portals, and
- Consistent workflow features to save results and track search history, which creates a clearer record of the examiner’s search strategy.

This unification of patent and non-patent results in a single system would bring efficiency and quality improvements to examination, and provide more clarity to applicants. And ultimately, as AI search capabilities continue to be integrated into PE2E, those capabilities can be applied across the unified collection of patent and non-patent documents for an improved prior art search.

6. Do you agree that recognizing an AI as an inventor would require statutory changes to Section 103 to adapt the obviousness test to AI? If so, what would be the most appropriate and feasible way to assess whether a claimed invention would be obvious to an AI?

The issue of obviousness and the level of ordinary skill in the art would certainly be called into question by the recognition of AI as an inventor. We continue to evaluate the best approach to address these evolving issues, and recognize them as serious concerns that require significant and thoughtful analyses given their potential impact on the patent system as a whole.

7. There has been talk regarding whether advances in AI warrant a sui generis (“of its/their own kind”) IP protection – a new form of IP protection separate from patent, copyright, trademark, and trade secret – for data rights.

What are your thoughts on this?

Our balanced IP system in the U.S. has allowed AI development to thrive, making sure that the building blocks needed for development can be leveraged by researchers. Any disruption to this balance in our IP system would harm innovation in AI, not help it. Introducing a new form of IP protection would be such a disruption, given the tremendous uncertainty it would bring to a system that is already thriving.

8. Given where AI now stands in practice – it’s a powerful tool that speeds the innovation process, but it does not itself innovate – what specific regulatory and/or legislative action should be and should not be taken this Congress?

Google is committed to developing AI’s incredible potential responsibly and for the common good. Google welcomes the opportunity to share our perspectives on developing regulatory standards and best practices for AI technology. We provided [comments](#) in April 2022 in response to NIST’s Request for Information on the Artificial Intelligence Risk Management Framework (Framework).

Google welcomed the release of the Framework in 2023 and congratulated NIST for producing a flexible and adaptive approach and for its guidance to developers and deployers of AI systems regarding striking a practical balance between optimizing beneficial use cases and addressing

potential risks. We value our dialogue with NIST and look forward to continuing to work with NIST as the AI ecosystem matures.

Additionally, in June 2023, Google submitted a detailed [comment](#) in response to the National Telecommunications and Information Administration's (NTIA) request for comment on AI and accountability.

Our leadership continues to engage with [government officials](#) and the [public](#) to continue discussions on AI and responsible development principles. We continue to provide education and resources for our researchers, [engage with policymakers](#) and external organizations to [develop standards, best practices](#), and a [policy agenda](#), and work with communities and experts to make AI safer and more useful.

9. With jurisdictions appearing to require disclosure of AI operation, including source code, for software-based innovations is trade secret a viable option for the protection of AI code? And if not, are there steps that regulators and governments can take to help make AI code subject to trade secret protection?

Trade secret is a viable option for the protection of AI code. We take steps to protect our innovations, and we do not allow any direct access to our models. All third-party access, and most first-party access, is gated via an Application Programming Interface (API) that is monitored and serves as an access control mechanism and policy enforcement point. Use of our AI models through our APIs, including our latest generative AI API, PaLM API, is subject to our [Google Terms of Service and Privacy Policy](#), as well as our [Generative AI Additional Terms of Service](#), and our [Generative AI Prohibited Use Policy](#).

Google's policies prohibit the misuse of our APIs for clearly specified reasons, like for performing or facilitating dangerous, illegal, or malicious activities. Furthermore, it is a violation of our policies for third parties to attempt to bypass these protective measures or use content that violates our Terms, and our models include safety features to block harmful content, such as content that violates our Prohibited Use Policy.

These policies are in accord with our [AI Principles](#) – which outline our commitments to develop AI technology responsibly, apply strong safety and security practices, and continue to develop our AI innovations in accordance with best practices in AI safety research.

We believe that regulation should balance transparency requirements against the risk of creating security vulnerabilities, exposing trade secrets and confidential information, or hindering innovation or the development of useful applications.