MARCH 8, 2024

USPTO Guidance on the Inventorship of AI-Assisted Inventions Highlights Need for Significant Human Contributions

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The US Patent and Trademark Office (USPTO) recently issued new Inventorship Guidance for AI-Assisted Inventions ("Guidance"), effective as of February 13, 2024. [1] The Guidance is a result of President Biden's Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence (AI) issued on October 30, 2023. The Guidance reiterates and adds more details to the current state of play.

The Guidance first addresses whether an AI system can be named an inventor or joint inventor for a U.S. patent application and points out that the USPTO and the courts previously considered the same question in the case of *Thaler v. Vidal*.[2] In that case, Mr. Thaler filed U.S. Patent Application No. 16/524,350 naming an AI model as the inventor and himself as assignee. The USPTO rejected the application in May 2020 on the basis that an inventor must be a natural person. The U.S. District Court for the Eastern District of Virginia and the U.S. Court of Appeals for the Federal Circuit agreed.

The position that an inventor must be a natural person is aligned with the definition of an inventor under 35 U.S.C. 100(f)--*individual(s)* who invented or discovered the subject matter of the invention. The Guidance explains that "the inventorship analysis should focus on human contributions, as patents function to incentivize and reward human ingenuity." Thus, patent applications that name a machine or an AI system as an inventor or joint inventor will be rejected based on improper inventorship.

On the other hand, the Guidance clarifies that patent protection may be sought for inventions for which a natural person provided a significant contribution to the invention. AI-assisted inventions are "not categorically unpatentable for improper inventorship." The Guidance considers the inventorship factors articulated in *Pannu v. Iolab Corp*., which the USPTO summarizes as "each inventor must: (1) contribute in some significant manner to the conception or reduction to practice of the invention,[3] (2) make a contribution to the claimed invention that is not insignificant in quality, when that contribution is measured against the dimension of the full invention, and (3) do more than merely explain to the real inventors well-known concepts and/or the current state of the art." [4]

The Guidance instructs that inventorship of AI-assisted inventions must be determined on a claim-by-claim and case-by-case basis. At least one natural person must have made a significant contribution to each claim in a patent application. Admitting there is no bright-line test for the determination of significant contribution, the Guidance provides a non-exhaustive list of principles that can help inform

the application of the *Pannu* factors for AI-assisted inventions.

- Merely presenting a problem to be solved to an AI system is insufficient. However, a significant contribution could be shown if a natural person constructs the prompts in view of a *specific problem to elicit a particular solution* from the AI system.
- Merely recognizing and appreciating the output of an AI system as being inventive is insufficient, particularly when the properties and utility of the output are apparent to those of ordinary skill in the art. However, inventorship by a natural person could be shown if the person takes the output of an AI system and makes a significant contribution to the output that results in an invention.
- Designing, building, or training an AI system in view of a *specific problem to elicit a particular solution* might justify inventorship if the designing, building, or training of the AI system is a significant contribution to the invention created using the AI system.
- Simply owning or overseeing an AI system does not, on its own, make a natural person an inventor.

In short, the Guidance provides a rough outline of a *significant contribution* test for determining inventorship for AI-assisted inventions. Although some example scenarios are provided and are generally helpful, there is much left unanswered. The law and the USPTO's views on these issues will surely evolve as courts inevitably get involved. One can easily foresee litigants dedicating significant discovery efforts into the role of AI in the conception of a claimed invention.

Going forward, it will therefore be important for inventors and their employers seeking patent protection to carefully document the use of AI in their innovation processes. Companies should consider adding questions to their invention disclosure forms requiring inventors to describe their use of AI, when applicable, in connection with the conception and/or reduction to practice of an invention. Practitioners should likewise get in the habit of asking inventors during invention disclosure meetings to provide information about their use of or reliance on AI for each invention.

It is also worth noting that the Guidance does not require disclosure to the USPTO of any AI contributions to an invention. However, practitioners and applicants should always bear in mind that the required inventor's oath or declaration must, among other things, *identify the inventor or joint inventor executing the oath or declaration by his or her legal name and include a statement that the person executing the oath or declaration believes the named inventor or joint inventor to be the original inventor or an original joint inventor* of a claimed invention in the application for which the oath or declaration is being submitted. The inventor's oath or declaration "must be executed (i.e., signed) in accordance either with § 1.66 or with an acknowledgment that any willful false statement made in such declaration or statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both."[5]

Lastly, it is worth noting that the USPTO is seeking public comments on the Guidance through May 13, 2024 and may subsequently modify the Guidance, issue further guidance, or issue additional examples.

The USPTO will also be conducting a public webinar on March 5 from 1:00-2:00 pm ET to answer questions and concerns.[6]

To learn more about evolving issues regarding AI-assisted inventions, please contact Michael S. Pavento and Leo R. Wen.