# Cantor Colburn Client Alert: USPTO Inventorship Guidance for Artificial Intelligence-related Inventions

**Summary**

On February 13, 2024, the United States Patent and Trademark Office ("USPTO") issued inventorship guidance for AI-assisted inventions (the "Guidance"). 89 Fed. Reg. 10043 (Feb. 13, 2024). The Guidance informs stakeholders, including patent applicants, practitioners, and examiners, about determining inventorship for patents or patent applications for inventions created by humans with the assistance of AI systems. The USPTO issued the guidance in response to the Biden administration's "Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence" (October 30, 2023).

**Overview of the Guidance**

In the United States, "only a natural person can be named as an inventor, so AI cannot be." *Thaler* v. *Vidal,* 43 F.4th 1207, 1213 (Fed. Cir. 2022), *cert denied,* 143 S. Ct. 1783 (2023). The Guidance makes clear that AI-assisted inventions are not categorically unpatentable. As explained by the Guidance, a natural person who uses an AI system to create an invention can still qualify as an inventor if the natural person significantly contributed to the invention according to the *Pannu* factors. *See Pannu* v. *Iolab Corp.,* 155 F.3d 1344, 1351 (Fed. Cir. 1998).

Patent applications and patents for AI-assisted inventions must name as the inventor(s) the natural person(s) who significantly continued to the invention without listing any non-human entity (such as an AI system) as an inventor. The Guidance follows the *Pannu* factors to determine whether a natural person significantly contributed to the invention. Failure to properly identify inventors can cause a patent to be invalidated.

*Pannu* requires that each named inventor significantly contribute to the claimed invention. To meet this requirement, a named inventor must satisfy the following three *Pannu* factors:

1. The named inventor must contribute in some significant manner to the conception or reduction to practice of the invention.
2. The named inventor must make a contribution to the claimed invention that is not insignificant in quality as measured against the full invention.
3. The named inventor must do more than merely explain to the real inventors well-known concepts and/or the current state of the art.

When all of these factors are met, a natural person is considered to have significantly contributed to an invention.

**The Guiding Principles**

To assist stakeholders with applying the *Pannu* factors in the case of AI-assisted inventions, the Guidance establishes five "guiding principles." Although there is no bright-line test for determining whether a natural person's contribution in an AI-assisted invention is significant, the USPTO's guiding principles are meant to help inform the application of the *Pannu* factors in AI-assisted inventions. The guiding principles are as follows:

1. A natural person's use of an AI system in creating an AI-assisted invention does not negate the person's contributions as an inventor.
2. Merely recognizing a problem or having a general goal or research plan to pursue does not rise to the level of conception.
3. Reducing an invention to practice alone is not a significant contribution that rises to the level of inventorship.
4. A natural person who develops an essential building block from which the claimed invention is derived may be considered to have provided a significant contribution to the conception of the claimed invention even though the person was not present for or a participant in each activity that led to the conception of the claimed invention.
5. Maintaining "intellectual domination" over an AI system does not, on its own, make a person an inventor of any inventions created through the use of the AI system.

The USPTO published two examples on inventorship specifically for AI-assisted inventions to aid stakeholders with applying these guiding principles. The first example relates to a transaxle for a remote control car. In this example, a free publicly available generative AI system is used to design the transaxle based on user-input natural language prompts. The second example relates to developing a therapeutic compound for treating cancer. Here, a ready-to-use deep neural network-based prediction model is used to predict interaction strength of bindings between a drug compound and its target. Each of these examples poses several hypothetical scenarios, which are then analyzed using the guiding principles to apply the *Pannu* factors to each scenario. Accordingly, the examples illustrate different roles that AI systems can play in the inventive process and how, for each scenario, inventorship issues ought to be analyzed.

**Other Considerations**

The Guidance does not change the duty of disclosure regarding patent applicants and practitioners' duty of candor and good faith in dealing with the USPTO. Rather, patent applicants and practitioners continue to have a duty to disclose all known information that is material to patentability to the USPTO under 37 C.F.R. 1.56, including about inventorship. The Guidance provides that "parties identified in 37 CFR 1.56(c), 1.555(a), and 42.11(a) have a duty to disclose to the USPTO information that raises a *prima facie* case of unpatentability due to improper inventorship or that refutes, or is inconsistent with, a position an applicant takes in opposing an inventorship rejection or asserting inventorship."

The Guidance also does not change the oath or declaration practice for named inventors in patent applications. An inventor-executed oath or declaration, or a suitable substitute statement, must be submitted in all cases. The Guidance emphasizes that "no oath, declaration, or substitute statement should be filed on behalf of an AI system, even if the AI system made contributions to one or more claims in a patent application" since only a natural person can be an inventor.

Likewise, the Guidance does not change to assignment practice for AI-assisted inventions regarding the applicant or assignment of ownership rights because "the ownership of a patent or application for a patent initially vests in the named inventors and is thereafter transferrable through assignments." Consequently, the Guidance cautions against recording assignments from AI systems with the USPTO because an AI system cannot be a named inventor.

**Takeaways**

It remains important for inventors and patent practitioners to work together to identify true inventors when filing and prosecuting patent applications. As part of the patent application preparation process, patent practitioners should seek to understand what role each human and each AI system, if any, played in the inventing process. Only natural persons who significantly contributed to an invention should be named as inventors on patents or patent applications filed with the USPTO.

**For Further Information and Assistance**

Attorneys in Cantor Colburn's Artificial Intelligence Practice Group have substantial experience representing clients in these types of matters. Primary contacts are:

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We welcome your questions regarding this matter and any other regarding your IP in general.

This client alert was written by David Kincaid with contributions from Eric Baron.

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