7 May 2024

To: United States Patent and Trademark Office (USPTO)

In re: Response to the U.S. Patent and Trademark Office's Request for Comments on *"Inventorship Guidance for AI-Assisted Inventions"*

IEEE-USA, representing approximately 150,000 engineers, scientists, and allied professionals living and working in the US, is pleased to submit the following comments in response to the USPTO's request of 13 February 2024. Our members, a diverse group of technical engineers and scientists, develop and work with the emerging technologies used in artificial intelligence systems. Some of us also practice as attorneys before the U.S. Patent and Trademark Office (USPTO). This expertise provides us with a unique perspective on the benefits of AI technologies and means we have a vested interest in AI-assisted inventing.

The USPTO should not place itself in a position to determine if an inventor is human or machine. The agency must follow the Constitution and longstanding patent law principles that a human has initiated the process that results in an invention regardless of how many tools or machine processes intermediate the first human act and the ultimate production of the invention.

For several decades, we have considered the progressing advancement between technology and the inventive steps taken to realize patented technology. IEEE-USA strongly believes that the USPTO must continue to operate under long established general foundational principles of U.S. patent law, both statutory and case law. AI systems, as developed over the decades remain tools used by inventors, no different than other tools used when inventing. Inventors are human beings.

Although some of today's AI technology may generate – in response to varying degrees of prompting – some results that may be selected by a human for protection under U.S. patent or copyright laws, there remains human agency in such prompting and selection. Whether such selected results merit and receive such protection may be determined, as circumstances permit, by administrative and judicial process.

The USPTO and the Federal Circuit have ruled that U.S. patent law requires a human inventor for a patent and that an AI system cannot be an inventor required under that law. The USPTO's Inventorship Guidance applies principles from human joint inventorship cases to "require" naming as an inventor at least one human who made a "significant contribution" to "conception or reduction to practice" (with an explanation that reduction to practice is not enough). Regardless of the rules already promulgated by the United States Copyright Office (USCO) concerning the registration of AI-generated works, the USPTO should recognize that humans are inventors in using AI as a *tool* to create inventions, such as in the invention of computer code or computer-implemented technologies. IEEE-USA takes the

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position that conception and reduction to practice remain the lodestar for a potentially patentable invention under the statutory requirements, and that the human is the progenitor of these acts even if ultimately performed by tools created by humans, such as AI.

U.S. patent law should apply in the same way when humans use generative AI as when humans use any other AI tool to assist in the inventive process. Inventors have always used technology, including automation and AI systems, for decades in the invention process. Generative AI is simply a next step, even if now widely adopted for some popular uses. This should not change how we fundamentally evaluate inventorship, just as the use of previous powerful invention-assistive tools, ranging from human language to calculus to computers, did not ultimately undermine the inventive contribution of humans when they used such tools.

The USPTO should continue to look to a human being for conception as the "touchstone" of invention. Legislation and the Courts have already provided specific rules that establish general principles and a framework for our courts and the USPTO. However, we believe that the current Guidance's application to AI-assisted invention of the *Pannu* synthesis of competing *human* claims to inventorship is incongruous and potentially leads to invalidation of otherwise valid patents.

The Copyright Office's March 2023 registration guidance, which extended its long-standing registration requirement of identifying (and disclaiming) "pre-existing works" to make the same requirement for more than *de minimis* AI contribution, is objectionable. However, emphatically, it should not be extended to consideration of patent inventorship. In applying both agencies' guidances, there may be inconsistent results with design patents. Design patent inventions that pass the USPTO's *Pannu* test of significant contribution of a human in use of AI-generated designs may not be registrable as involving more than *de minimis* AI generation. In the coordination directed under Executive Order 14410, the USPTO should NOT apply to patents the new copyright *de minimis* standard.

Inventorship is a predicate to AI processes that lead to inventions. Just as U.S. patent law does not evaluate the degree of utility, it similarly should not assess the degree of human involvement or the degree of machine involvement in the act of invention. It is a binary inquiry: did a human conceive or set into motion the reduction to practice? The USPTO must not remove an AI toolset from an inventor's toolbox.

Sincerely,

Keith Moore
IEEE-USA President