

Should Inventions Generated by AI Receive Patent Protection?

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In the movie “Avengers: Age of Ultron,” Tony Stark uploads his digital personal assistant J.A.R.V.I.S. into a synthetic body made from vibranium. With an energy infusion from Thor’s hammer, Vision is born, an android that aids the Avengers in defeating Ultron, another Stark-created sentient android. At the movie’s conclusion, Vision files for a patent on his unique energy beam, but his application is denied because he is not human.

That last part is, of course, not in the movie, but the underlying issue—whether something other than a person is eligible to receive a patent—is very real.

DABUS and Its Creations

Stephen Thaler created and developed the artificial intelligence system DABUS, which he claims invented both an improved food container and a light beacon for attracting/retaining attention.

Thaler filed patent applications for both with the US Patent and Trademark Office, identifying DABUS as the inventor. The applications were rejected because they did not list a person as the inventor.

Thaler sued the USPTO in federal district court and asked the court to declare that AI may properly be listed as an inventor and order the patent office to reinstate the applications. Judge Leonie Brinkema identified the core issue as whether an AI machine may be an “inventor” under the Patent Act. She held that the answer was clearly “no” under the plain language of the act and court precedent interpreting it.

Thaler appealed to the US Court of Appeals for the Federal Circuit, the exclusive appeals court for handling patent cases. The Federal Circuit has not yet issued its decision, but the judges who heard argument on the matter appeared to support Brinkema’s decision.

The plain text of the Patent Act strongly supports the conclusion that Congress intended to award patents only to natural persons. For example, the modern Patent Act, enacted in 1952, limits granting patents to “persons” (35 U.S.C.

§ 102), and the 2011 America Invents Act amendments defined “inventor” as an “individual” or “individuals” (35 U.S.C. § 100(f)).

Past Rulings in Federal Circuit

The Federal Circuit held in 1993 and again in 2013 that an inventor can only be a natural person, making it highly unlikely that the court will rule in Thaler’s favor on this go-around. It is also unlikely that the US Supreme Court would take up the issue, and even if it did, given the court’s conservative make-up, there is no reason to believe that the justices would read the Patent Act to mean anything other than what it says—only natural persons qualify as inventors eligible to receive a patent.

But this is not the end of the issue. AI has long been in use and increasingly contributes to society. Examples include automobiles, which use cameras and algorithms to scan and interpret their surroundings and warn the driver or control the vehicle’s operation in response; digital assistants that recognize voices, interpret questions, and search for and respond with answers; hospitals, where voice recognition and natural language processing software transcribe, interpret, encode, and generate reports of a doctor’s encounter with a patient; and many others.

In 2020 a patent office report highlighted the increasing importance of AI in inventions, finding that in 2018 over 60,000 patent applications were filed in which AI was an element of the claimed invention. Indeed, hundreds of thousands of patents have been granted on such inventions.

Thaler’s Predicament

Of course, in those patents, a person or group invented a system having a form of AI as a component. What Thaler asserts is very different: DABUS, not him, invented the new food container and light beacon.

Some might ask why Thaler, as the creator of DABUS, did not simply name himself as the inventor and receive the patents in his name. That is not allowed under the patent law—patents may only be awarded to the “inventor”, that is, the person that formed in their mind a definite and permanent idea of the complete and operative invention.

Thaler does not meet this definition and patents issued in his name would therefore be invalid and unenforceable. That means that a company could copy the inventions and profit from them, with Thaler having seemingly no recourse (this is not a mere hypothetical, as Thaler’s patent applications were published as part of the European Patent Office procedure).

This outcome is contrary to the goal of the US patent system, which is to promote and protect innovation for the good of the country and beyond. Companies may be less willing to devote resources to developing and improving AI systems like DABUS knowing that any inventions those systems generate cannot receive patent protection.

Patents are often a critical factor in determining whether a company receives funding. This raises the possibility that society will be denied ground-breaking inventions because funding for the AI systems that may develop them is unavailable.

Congress Must Fix This

Two things are clear from Thaler’s predicament.

First, this is an issue that is going to arise more frequently as AI technology continues to improve. And second, it is one for Congress, not the courts, to address.

Congress could either expand the definition of “inventors” to include AI, or allow the AI owners to file for patent protection on AI-generated inventions in their name. Congress could also reject any argument that the Patent Act should be amended to account for AI-generated inventions.

As explained above, however, this latter outcome would be contrary to the goal of promoting and protecting innovation.

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