

## Barcia, Patrick

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**From:** Jonah Probell <jonah@probell.com>  
**Sent:** Saturday, December 7, 2019 6:51 PM  
**To:** aipartnership  
**Subject:** Comments on Intellectual Property Protection for Artificial Intelligence Innovation in response to Federal Register notice 84 FR 58141

Dear USPTO,

I am a registered patent agent responsible for the IP portfolio for SoundHound, a mid-sized Silicon Valley company developing AI technology primarily for speech recognition and natural language understanding. I have taken courses and read many papers on AI. I both invent and harvest AI inventions. The following comments are my own and do not represent the opinion of my employer.

There is no commonly accepted definition of AI. Many companies apply the term to almost any computer-implemented product as a buzz word. In another light, AI might portend a revolutionary change to human existence. Practically, I will assume the term to refer to arrangements of neural networks or similar models learned to conform to data samples. Such a model is simply a set of specifically chosen parameters.

AI can do amazing feats of recognition such as recognizing handwriting, objects in images, diseases in scans, speech in audio, and meanings of words. Neural networks can also do amazing feats of generating data such as producing images from words, captions from images, poems and music from random numbers, pictures of people with specific attributes, abstract art, and fake videos of famous people. However, these feats are all accomplished by mimicking training data. I confidently predict that machines will not have intent for at least 10 years. Therefore, concern about AI as an inventor or IP owner is currently premature.

Suppose that:

Person A conceives of an AI architecture;  
Person B provides a corpus of training data;  
Person C trains the AI in accordance with the training data;  
Person D applies the AI to input as a tool;  
The AI outputs a specification; and  
Person E discovers that the specification describes a process, machine, manufacture, or composition of matter that is new and useful.

Relying on statute, I propose that Person E should be the only inventor by virtue of their discovery.

35 USC § 101 states, "*Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.*"

Neither Persons A, B, C, or D should be considered an inventor for reasons similar to the common understanding that a person who sets forth a problem, a person who provides a laboratory or input, and a person who merely operates a laboratory tool are not inventors. The concept of the laboratory tool itself -- a set of parameters in the case of AI -- being an inventor is just silly.

Regarding granting patents, 35 USC § 115 states, "...*each individual who is the inventor or a joint inventor of a claimed invention in an application for patent shall execute an oath or declaration in connection with the application.*"

No reasonable definition of the word **individual** could refer to an AI. Additionally, an AI cannot execute an oath or declaration and therefore no patent could be issued under US law with an AI as an inventor.

Furthermore, statute and jurisprudence treat patent rights as property.

US Constitution (Article I, Section 8, Clause 8) states that the United States Congress shall have power "*to promote the Progress of Science and useful Arts, by **securing** for limited Times to Authors and Inventors the **exclusive Right** to their respective Writings and Discoveries.*"

A reasonable interpretation of **securing** of an **exclusive right** is that it means ownership.

Under our federal rules, 37 CFR § 3.73(a) states that "the original **applicant** is presumed to be the **owner** of an application for an original patent, and any patent that may issue therefrom, unless there is an **assignment**."

Even improbable definitions of AI do not comport with it being an owner under US law. US law only presumes that humans and corporations can be owners of property, not monkeys, plants, rocks, or other forms of silicon.

Technologically, AI inventions are like other computer-implemented inventions. The USPTO should examine them as such. No further guidance is needed in the foreseeable future in that respect. If any examiner guidance is needed, it should be a reminder to reject applications for improper naming of an inventor if it appears that a named inventor is not human.

Sincerely,

/ Jonah Probell /

Thanks to Prof. Colleen V. Chien whose Santa Clara University course on technology and law addresses such considerations.