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Artificial Intelligence: Who Owns the Machine's IP?

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Artificial Intelligence is Here

- By 2018, artificial intelligence will be incorporated into about half of all apps developed
- By 2020, savings fueled by A.I.—in reduced people costs and increased workflow efficiencies, for example—are expected to total an estimated \$60 billion for U.S. enterprises.

European Parliament Report

Ultimately there is a possibility that within the space of a few decades AI could surpass human intellectual capacity in a manner which, if not prepared for, could pose a challenge to humanity's capacity to control its own creation and, consequently, perhaps also to its capacity to be in charge of its own destiny and to ensure the survival of the species.

What Is Artificial Intelligence?

Narrow AI

Specific applications such as:

- Playing strategic games
- Language translation
- Self-driving cars
- Image recognition



<https://youtu.be/C5Xnxjq63Zg>

What Is Artificial Intelligence?

Artificial General Intelligence (AGI)

Exhibits apparently intellectual behavior at least as advanced as a person across a full range of cognitive tasks

Alan Turing Test for AGI

- Person in separate room
- Correspond with AI in text only
- If responses were indistinguishable from real human response, then the machine would appear human

Human Level AGI

Survey of AI researchers found:

- 80 percent believe human level AGI will eventually be achieved
- 50 percent believe it will be achieved by 2040

Stephen Hawking

Success in creating AI would be the biggest event in human history.

Stephen Hawking (continued)

Unfortunately, it might be the last, unless we learn how to avoid the risks. In the near term, world militaries are considering autonomous-weapon systems that can choose and eliminate targets.

Because humans are limited by slow biological evolution, they cannot compete and would be superseded by AI.

U.S. Constitution, Art. 1, Sec. 8

Congress has the 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.”

Can an AI Machine Be an Inventor?

- “Inventor” not defined by Constitution
- Inventor means an individual, or if a joint invention, the individuals collectively
- Unless a person contributes to the conception of an invention, he is not an inventor

Can an AI Machine Conceive an Invention?

- Conception is the cornerstone of invention
- Formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as to be applied to practice
- Patentability shall not be negatived by the manner in which the invention was made.

Can an AI Machine Infringe on a Patent?

- Whoever actively induces infringement of a patent shall be liable as an infringer

Other Impacts of AI on Patent System

Allpriorart.com

- Algorithmically create and publish all possible new prior art to make claims not patentable
- Democratize ideas
- Pre-empt patent trolls

Can an AI Machine Block a Patent?

Communications between participants over a communications link are proxied by an intermediary, such as an Integrated Order Mechanism. A semiconductor substrate with a trench is provided, and a trench capacitor is formed in the trench with a storage node and a node dielectric layer. The winding wire is wound around a wound region of the inter-magnetic-pole core portion. A radius and a center coordinate of the circle on which the image is two-dimensionally modeled are used to re-arrange the X-ray tube, the sensor, and the modeled circle.

Can an AI Machine Be an Author?

<https://youtu.be/0uCdJKVjPmQ>

Is an AI-Created Work a Work for Hire?

- Specially ordered or commissioned
- In 1 of 9 categories, including audiovisual work
- If the parties expressly agree in a written instrument signed by them

Copyrights Are Created Only By Humans

The U.S. Copyright Office will register an original work of authorship, provided that the work was created by a human being.



What Are Other Countries Doing?

European Parliament Resolution

- Would create EU agency for AI to establish:
 - Common definitions
 - Registration of AI
 - Balanced approach to IP rights

What Are Other Countries Doing?

Japan

- Copyrights currently cover “works that creatively express thoughts or emotion”
- Propose to cover AI generated works by granting ‘unfair competition’ type coverage to person or corporation responsible for the technology system producing the work

What Are Other Countries Doing?

- UK Copyright Law:

In the case of a literary, dramatic, musical or artistic work which is computer generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken.

https://soundcloud.com/jukedeck/upright-piano-audio-synthesis?utm_source=soundcloud&utm_campaign=share&utm_medium

- Jukedeck License:
“When you purchase a Track under the Copyright license, Jukedeck transfers ownership of the track to you. Thereafter, you can do what you wish with the track.”

Changes to U.S. Copyright Law?

- Berne Convention → rights enforceable
- But subject to Section 102 definition of copyrightable work

More Questions than Answers

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