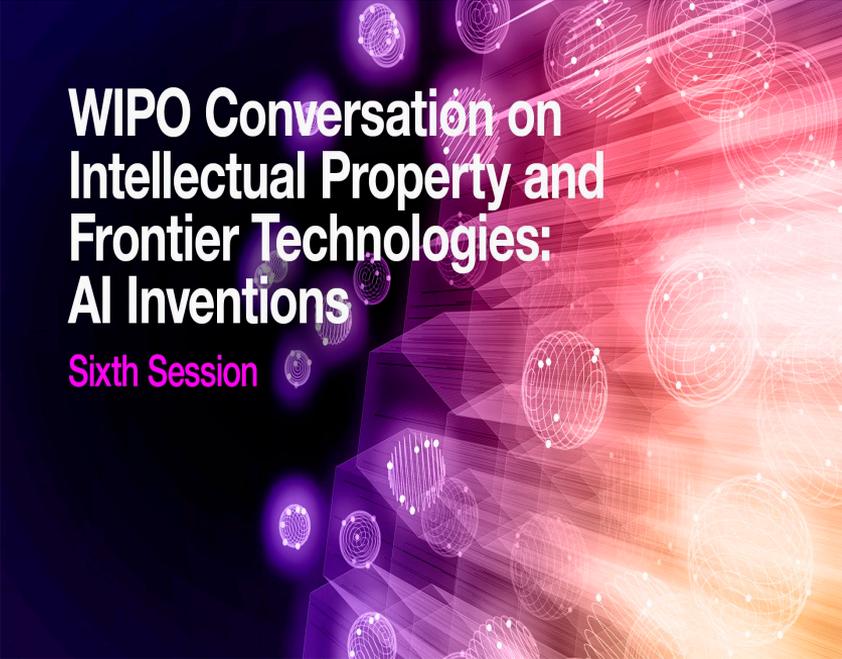


# *WIPO Conversation on IP and Frontier Technologies*



## **WIPO Conversation on Intellectual Property and Frontier Technologies: AI Inventions**

**Sixth Session**

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*Marshall Gerstein*

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*Presented by*  
Ryan N. Phelan

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# THE MANY MEANINGS OF “ARTIFICIAL INTELLIGENCE”

## Artificial Intelligence

(umbrella term for the branch of computer science involving computer intelligence, e.g., expert systems)

## Machine Learning

(data may be used to train a model that can then be used to make predictions or classifications on similar data)

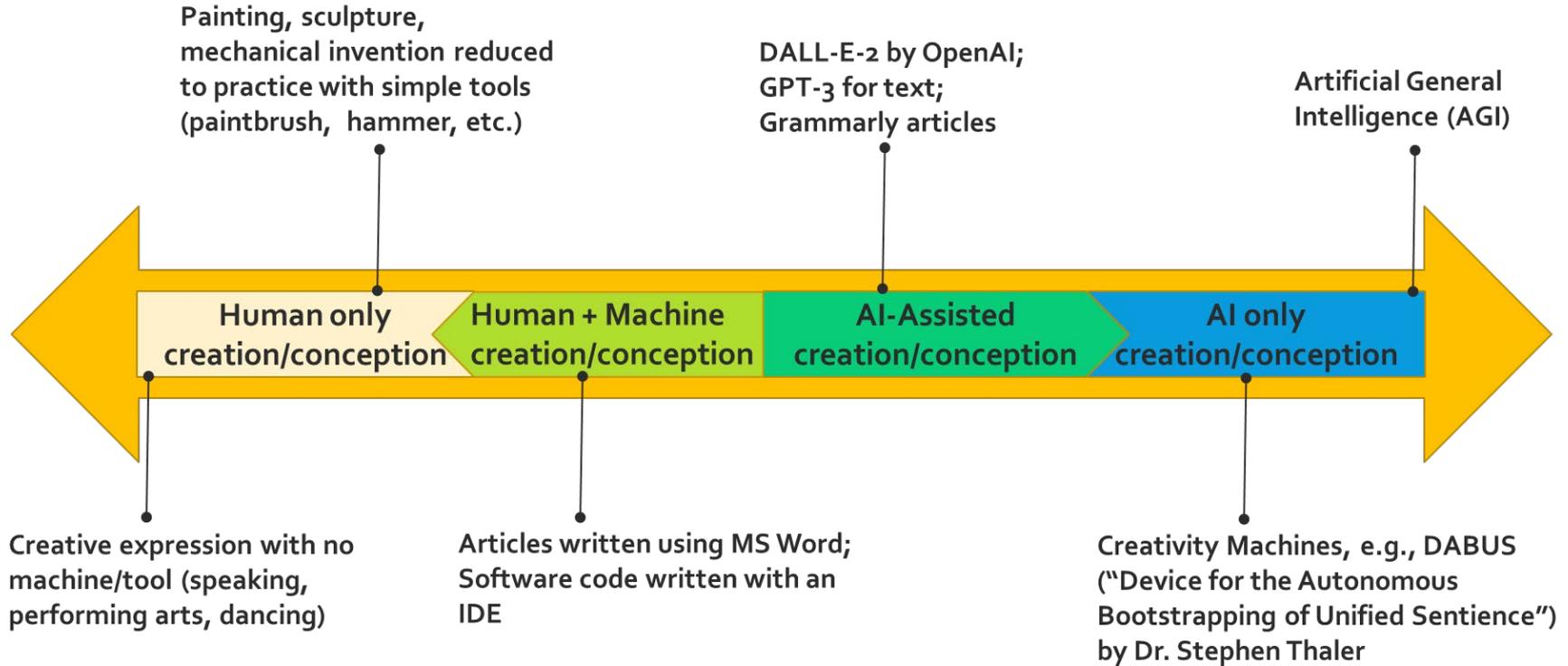
## Neural Networks

(multiple linked nodes (i.e., neurons) receive inputs and produce outputs based on an activation function)

## Deep Learning

(Neural Network w/ Many Hidden Layers of linked nodes)

# AI AUTHORSHIP/INVENTORSHIP SPECTRUM



# THE DABUS INVENTIONS

## “Device for Autonomous Bootstrapping of Unified Sentience”

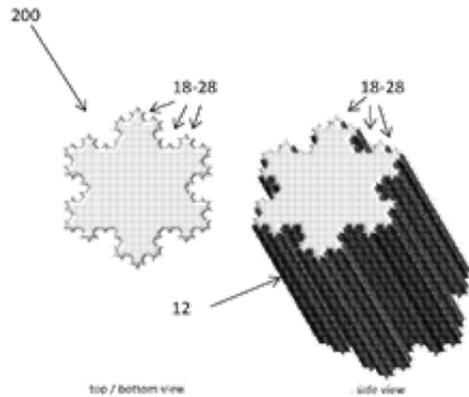


Fig. 6

**First Invention:** Beverage container (e.g., “fractal container 200” of Figure 6).

Has a series of fractal elements 18-28 that “extend in linear manner along the length of the container 200”

**Solution 1:** “... the corresponding convex and concave fractal elements ... provide for increased surface area of both the interior and exterior surfaces of the container relative to a volume of the chamber. An increased surface area can assist in the transfer of heat into and out of the container, for example for heating or cooling the contents thereof.”

**Solution 2:** Containers fit together w/o use of plastic ties

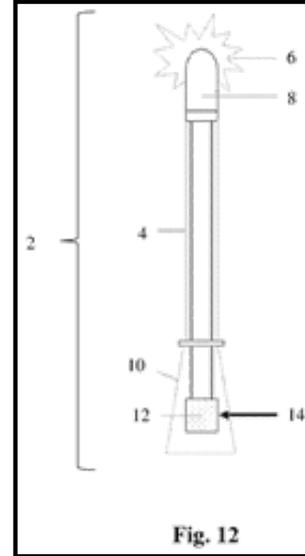


Fig. 12

**Second Invention:**

“Neural-flame device for attracting enhanced attention” of Figure 12. Has a “controllable light source 6 (e.g., an LED component”) activated in a manner “to trigger the brain's innate ability to filter sensory information”

**Solution:** “A light source driven in such a manner may serve as an emergency beacon within environments filled with distracting light sources that are flickering randomly or periodically.”

# *AI Inventorship – Worldwide Perspective*

**NO sole AI-Inventorship in most jurisdictions:** Various patent offices/boards/courts have found that inventorship requires a natural person. (United States, United Kingdom, EPO, Japan, China, Australia, and New Zealand )

**Australian Patent Office:** Australian patent law, as currently written, requires a human inventor. Previously, an Australian lower court judge had found that an AI could be listed as a sole inventor on a patent application. However, this was later overturned by the Federal Court of Australia's Full Court.

**South African Patent Office (CIPC):** The application may identify an AI inventor, at least where the South African application was filed based on an international application (e.g., a Patent Cooperation Treaty (PCT) application) designating an AI inventor, as previously accepted by the World Intellectual Property Organization (WIPO)

# DALL-E-2 Example

DALL-E-2 x surrealist painting of a cityscape x +

labs.openai.com/e/Jx4dr76pgNPIVNAmOxmvMRci

DALL-E My collection

Edit the detailed description

Surprise me Upload →

surrealist painting of a cityscape at the bottom of the ocean

Generate



The image displays four distinct surreal cityscapes generated by DALL-E-2, each set at the bottom of the ocean. The first image shows a dense, multi-story city with buildings in various shades of blue and grey, illuminated from above. The second image features a cityscape with buildings on a dark, flat surface, with a large, white, tentacle-like creature reaching up from the water below. The third image depicts a city with buildings in shades of yellow and orange, with a large, white, tentacle-like creature reaching up from the water below. The fourth image shows a cityscape with buildings in shades of blue and grey, with a large, white, tentacle-like creature reaching up from the water below.

# *Additional References*

# PatentNext

A Patent and Intellectual Property (IP) law blog focusing on  
Next-Generation and New-Age Technologies

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**Can an Artificial Intelligence (AI) be an Inventor?**

**European Patent Office (EPO) Suggests that the Owner of an Artificial Intelligence (AI) Machine Could be Listed as the Inventor of an AI-Generated Invention**

**Updates on AI Inventorship: New Zealand, the EPO, and the UK allow an Artificial Intelligence (AI) machine to be listed as a Joint Inventor along with at least one Human Inventor**