AI Inventorship at KIPO

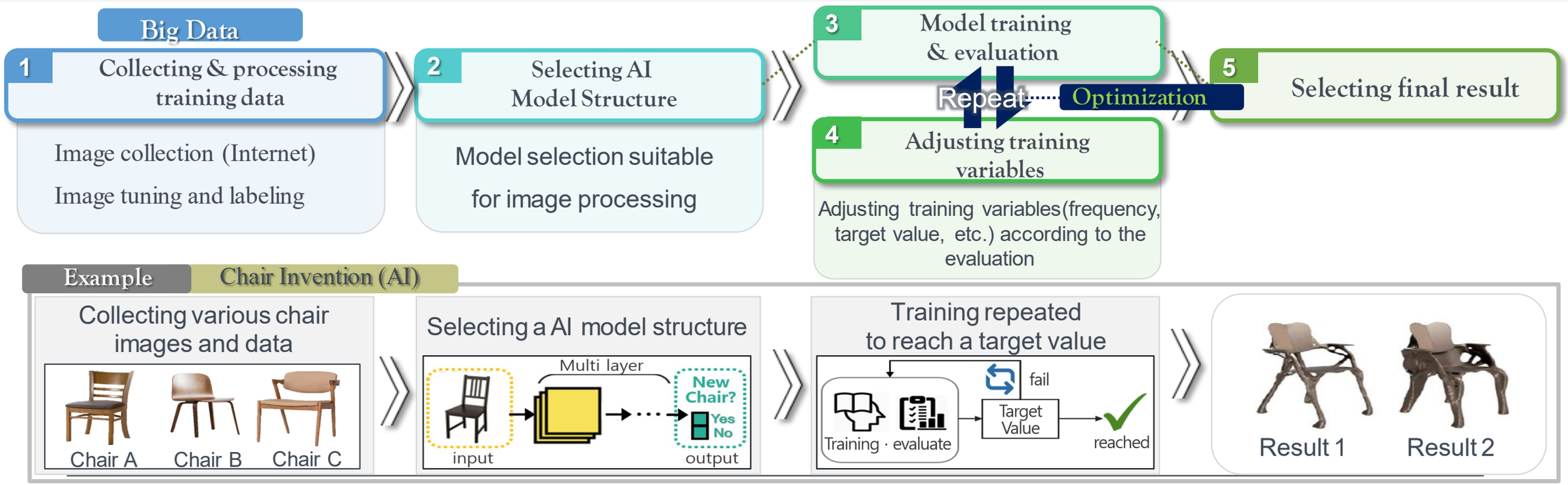
WIPO 6th IP & Frontier Technologies Conversation | Sep. 2022 | Virtual Meeting

Korean Intellectual Property Office

AI's role in the creative process of an invention

How can an AI able to contribute to the processes of completing an invention?

- It is universally common that substantial contribution is required to be acknowledged as an inventor, and use of AI in the inventive process is generally being increased in various fields (ex. medical field, etc.)
- AI can be applied to the process of completing an invention in steps of constructing an AI model based on training data and selecting generated outputs by repeating model training



Classifications of AI inventions and protection

What does AI invention mean?

AI core invention	AI applied invention	Invention by AI
An invention for AI technology itself (ex) training method, neural network structure, etc.)	An invention using AI as a problem solving means (ex) applied to autonomous driving, medical health care, etc.)	Inventions mostly contributed or created by AI itself
42.1%(84,386 inventions)	**57.9%*(116,089 inventions)**	**0.0%(1~2 inventions)?**

"Protected? Yes!" **An AI-related invention is classified into computer-implemented invention(CII) in some developed countries and the countries protect its right by applying its own computer-implemented invention examination guideline.**

"Protected ?" If an AI is listed as an inventor, concerned application is rejected base on a deficiency of formality.

- **Publishing AI related examination cases (Apr. '20)**
- **Establishing AI patent examination guidelines (Dec. '20)**

Claimed as AI generates inventions '**autonomously**'
► IP5 and WIPO have paid high attention to 'AI generated' inventions as of today.

* Analysis of Korea, US, Japan, Europe, China, PCT, Canada, Israel patents disclosed in '00~'18 (Source: KISTA December '20 Big Data Analysis Report)

AI System as an Inventor: “DABUS” Case

Claimed ‘AI’ has created an invention on its own

Invention 1. Beverage container based on fractal geometry

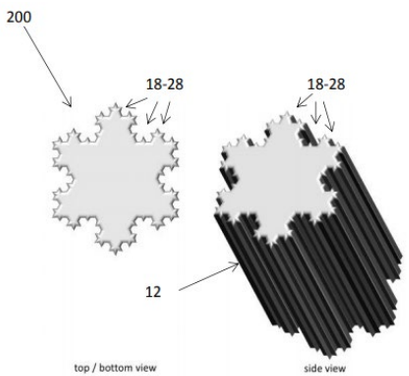


Fig. 6

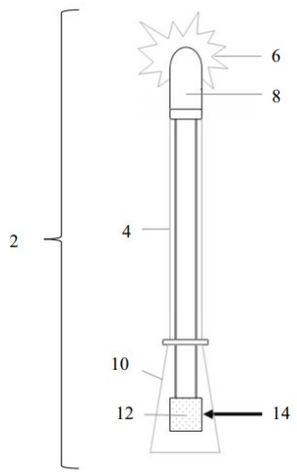
Contents

Beverage container based on fractal geometry, having recesses and convexities inside and outside the container

Effect

Enables multiple containers to be coupled; and easy to hold; and higher efficiency in heat transfer

Invention 2. Nerve Stimulation Lamp



Contents

A lamp that mimics the pattern of neural motion and emits a noticeable flashing light

Effect

Grabbing attention at the moving pattern of the lamp

Over view

- International patent application filed by AI developer (Dr. Stephen Thaler(US), patent applicant), by naming an AI as an inventor
- Unjustifiable to designate a human being as an inventor in that there is no involvement of a human being, **Argued that AI should be allowed to be named as an “inventor”**

“The applicant did not argued for granting a right or an authority to AI”

(71) **Applicant: THALER, Stephen L.** [US/US]; 1767 Waterfall Dr., St Charles, Missouri 63303 (US).

(72) **Inventor: DABUS, The invention was autonomously generated by an artificial intelligence**; 1767 Waterfall Dr, St Charles, Missouri 63303 (US).

(74) **Agent: ABBOTT, Ryan**; 11601 Wilshire Blvd #2080, Los Angel, CA 90024 (US).

AI System as an Inventor: “DABUS” Case

Each state’s stance towards an AI inventor

Ruling

- Rejected in some developed countries (US, UK, Germany, Australia, etc.) on the ground that the **named inventor is not a human being**
- (South Africa) Granting a patent or recognizing AI as an inventor, according to its unique system or regulation

Korea

Require for amendment (May '20):
An inventor is not a natural person, but a machine

South Africa

Granting a patent based on the formality examination
→Ruling was not issued regarding whether AI can be recognized as an inventor. Once a dispute is raised, a court will judge the case.

US CAFC Ruling (Aug. ‘22)
Not acknowledging AI as an inventor

- According to the Patent Act, an inventor should be described as an ‘individual’ meaning a natural person
- An inventor should be able to make a declaration/oath regarding concerned application

Therefore, AI cannot become an inventor; and legislative action is preliminarily required for AI to be named as an inventor.

Australia Full Federal Court (Mar. 22) :
Not acknowledging AI as an inventor

- Overturning the lower court decision that an inventor can be construed as a human being or a thing
- Ruling that a natural person only can become an inventor to clarify the attribution of rights

Appeal to the High Court

German Federal Patent Court (Mar. ‘22) :
Not acknowledging AI as an inventor

- The German Federal Patent Court has allowed a parallel description for additional explanation of an inventor, however, not permitting to name AI as an inventor

→ Stephen L. Thaler, PhD who **prompted the artificial intelligence DABUS to create the invention**

Appeal to the Federal Court of Justice

KIPO's approach towards AI related inventions

Domestically

(Nov. '19) Convergence Technology Exam. Bureau established for 4IR related technology examination
- AI·BigData / IoT / BioHealthCare / Intelligent Robot / Autonomous Driving / Smart Manufacturing

(Apr. '20) AI related examination cases published (Specification)

(Dec. '20) AI Patent Examination Practice Guideline established

(Aug. '21) AI Experts Consultation Body Organized (Legislation, Technology, Industry)
- For discussing ways to protect AI inventions

(Mar. '22) AI & IP White Paper published
- Summarizing results of policy study between domestic and foreign experts

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Internationally

(Jun. '19) The 12th IP5 Heads of Offices Meeting (Incheon, Songdo) (KIPO)
- Creation of TF Team for **NET/AI**(New Emerging Technology/Artificial Intelligence) cooperation endorsed

(Jul. '20 ~) Seamless cooperation through international conferences (including AI seminar organized by WIPO, etc.)

(Jun. '21) NET/AI Roadmap endorsed (IP5 Heads of Offices Meeting)

(Dec. '21) International conference on AI inventorship (KIPO)

AI inventions will rapidly be increased for time being, and technology levels will be enhanced as well.

Enhancement of the patent system and international cooperation are significantly important regarding AI related inventions

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Thank you