Artificial Intelligence and Inventorship, Patentability
What is AI (system)?

**Definition:** AI systems are **software systems** (and possibly also hardware) [...] that, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected [...] data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve a given goal. AI systems can [...] also adapt their behaviour by analysing how the environment is affected by their previous actions.

EPO active in discussions on patent law-related aspects of AI

- **Discussions** with the Contracting States
- **Studies** with IP5 and an IP5 task force under the lead of the EPO
- **Academic study** on inventorship
- **Conferences** and workshops with users
- Open communication on the relevant cases
Patent applications on AI (techniques) at the EPO

Source: EPO. The number of European patent applications in AI technologies corresponds to EP/WO families in the CPC class G06N7, G06N5, G06N99 /005 and G06N3, corresponding to core AI. In addition, a set of class symbols related to AI was compiled also, based on the description of the classification symbol. The results are presented by oldest filing date.
# Patentability of AI-related inventions at the EPO

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<th>Types of applications</th>
<th>Patentability issues</th>
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<td>• Implementation of AI</td>
<td>• Patentable subject-matter</td>
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-  Patented subject-matter
-  As a rule “computer implemented invention”
-  Sufficient disclosure
-  Clarity of terminology
-  Person skilled in the art
-  Inventorship
3.3.1 Artificial intelligence and machine learning

Artificial intelligence and machine learning are based on computational models and algorithms for classification, clustering, regression and dimensionality reduction, such as neural networks, genetic algorithms, support vector machines, k-means, kernel regression and discriminant analysis. Such computational models and algorithms are per se of an abstract mathematical nature, irrespective of whether they can be "trained" based on training data. Hence, the guidance provided in G-II generally applies also to such computational models and algorithms.
Applications naming AI as inventor

18 275 163.6

**FOOD CONTAINER**

A container (10) for use, for example, for beverages, has a wall (12) with and external surface (14) and an internal wall (16) of substantially uniform thickness. The wall (12) has a fractal profile which provides a series of fractal elements (18-28) on the interior and exterior surfaces (14-16), forming pits (40) and bulges (42) in the profile of the wall and in which a pit (40) as seen from one of the exterior or interior surfaces (12, 14) forms a bulge (42) on the other of the exterior or interior surfaces (12, 14). The profile enables multiple containers to be coupled together by inter-engagement of pits and bulges on corresponding ones of the containers. The profile also improves grip, as well as heat transfer into and out of the container.

18 275 174.3

**DEVICES AND METHODS FOR ATTRACTING ENHANCED ATTENTION**

The present invention discloses devices and methods for attracting enhanced attention. Devices include: an input signal of a lunar pulse train having characteristics of a pulse frequency of approximately four Hertz and a pulse-train fractal dimension of approximately one-half; and at least one controllable light source configured to be pulsatingly operated by the input signal; wherein a neural flame emitted from at least one controllable light source as a result of the lunar pulse train is adapted to serve as a uniquely-identifiable signal beacon over potentially-competing attention sources by selectively triggering human or artificial anomaly-detection filters, thereby attracting enhanced attention.
EPO refuses applications indicating a machine as inventor

EPO publishes grounds for its decision to refuse two patent applications naming a machine as inventor

28 January 2020

The EPO has published its decision setting out the reasons for its recent refusal of two European patent applications in which an AI system was designated as the inventor. Filed by an individual in autumn 2018, the applications EP 19 275 183 and EP 19 275 174 were refused by the EPO following oral proceedings with the applicant in November 2019, on the grounds that they do not meet the legal requirement of the European Patent Convention (EPC) that an inventor designated in the application has to be a human being, and not a machine.

In both applications a machine called "DABUS", which is described as "a type of connectionist artificial intelligence", is named as the inventor. The applicant stated that he had acquired the right to the European patent from the inventor by being its successor in title, arguing that as the machine's owner, he was assigned any intellectual property rights created by the machine.

In its decision, the EPO considered that the interpretation of the legal framework of the European patent system leads to the conclusion that the inventor designated in a European patent must be a natural person. The Office further noted that the understanding of the term inventor as referring to a natural person appears to be an internationally applicable standard, and that various national courts have issued decisions to this effect.
### Legal provisions

<table>
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<th>Art. 62 EPC</th>
<th>Art. 81 EPC</th>
<th>Art. 60 EPC</th>
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| The inventor shall have the right to be mentioned as such before the EPO. | The European patent application shall designate the inventor. | The right to a European patent shall belong to the inventor or his successor in title. | The designation shall state the family name, given names and full address of the inventor. | J 7/99
| J 8/82 |

The inventor must be a natural person.

If no formally correct designation is filed, the application will be refused (Art. 90(5) EPC).
Landscaping studies

See [www.epo.org/4IR](http://www.epo.org/4IR)
www.epo.org

Thank you for your attention!