JONES DAY

COMMENTARY

OCTOBER 2018

IN SHORT

The Situation: Artificial intelligence and machine learning ("AI/ML") play an increasingly important role in a number of industries, and those industries are seeking ways to guard their innovations by means of copyright and trade secret intellectual property protection.

The Response: The European Patent Office ("EPO") has recognized the growing need to clarify the rules on how inventions related to, and made by, AI will be handled, and to determine what patent protection exists for this rapidly developing technology. The recently updated EPO Guidelines for Examination, which come into force in November 2018, address only technical issues.

Looking Ahead: Further questions remain open, but the EPO is expected to treat AL/ML patent applications according to established rules for patenting computer-implemented inventions ("CII").

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Earlier this year, the EPO met with industry stakeholders during two major events in Munich and Brussels, to discuss the challenges of patenting AI/ML inventions. The EPO is taking steps to encourage the disclosure of AI innovations, instead of keeping them as trade secrets.

Examination of AI inventions at the EPO: The "Two-Hurdle" Approach

In the new Guidelines, AI inventions fall under the general rules for patentability of mathematical methods (G-II, 3.3). The examination approaches for AI/ML inventions are similar to the "two-hurdle approach" for patentability of CII.

An AI invention with a technical character fulfills requirements under Art. 52(2)(c) EPC. The claimed subject matter must be directed to a technical device having an inherent technical character (i.e., computer, processor) or a method involving the use of such technical means. For AI/ML inventions, the first (eligibility) hurdle can be overcome by formulating the claims as established for CII.

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In addition, AI/ML inventions must demonstrate that the claimed subject matter serves a technical purpose. Similar to CII, the novel claimed subject matter must be embedded in a technical application or implementation, especially through the provision of (or contribution to) the resolution of a specific technical problem or via adjustments of an AI/ML method for its implementation in a specific hardware architecture. The EPO will not accept generic purposes such as "controlling a technical system" or the mere fact that a mathematical method may serve a technical purpose.

The technical purpose must be specific, and the claim must be functionally limited to the technical purpose. As with the established practice for CII, in order to overcome the second (patentability) hurdle, AI/ML applications will be required to have sufficient disclosure of technical effects, technical purposes, and technical advantages for each of the claimed features that distinguish the AI/ML application from the state of the art.

Unanswered Questions

Although the eagerly awaited update clarified some important aspects of patenting AI/ML, it does not provide clarification of other ongoing, related issues.

During the meetings in Munich and Brussels, participants discussed possible ways to define a "person skilled in the art" as applied to inventions resulting from an AI/ML-based inventive process. Options included:

- A person aware of the concepts and terminology used in the field of the AI application who has the means, including AI tools, for routine work and experimentation;
- A team of experts from different fields; and/or
- A machine skilled in the art or a skilled "entity" that includes a person or a team and a machine skilled in the art.

The latter is questionable, pending determination of whether inventiveness, as currently defined, is applicable to AI/ML-based innovations. As AI technology advances in the future, a machine skilled in the art might be able to access electronically available knowledge in any technical field worldwide and independently could develop something novel, bringing it in line with the guidelines' requirements for a determination of an inventive step (G-VII-Annex, 3.9.3).

Requirements for clarity and sufficiency of disclosure for AI applications are still uncertain. An AI algorithm is opaque, offering few comprehensible clues as to how the system reaches a conclusion. To date, proposed solutions have included extensively defining artificial neural network features such as input/output data and data network architecture.

In post-grant proceedings, clarity and sufficiency play a crucial role. It can be challenging to provide the evidence of infringement since it is not always possible to understand how AI works. A plaintiff may have difficulty proving that the same method was used in an infringing product, which contributes to the overall interest in developing "explainable AI."

Finally, AI innovations might shift the understanding of who is an inventor/owner from the inventor-based ownership to a system that gives exclusive rights to companies and investors. In this regard, time will tell whether disclosure to the EPO of the details of an inventive process (i.e., if the invention was made by AI or by a person) will be required. This might also affect the rules for assessing the inventive step.

AI patenting is developing in tandem with this rapidly advancing technology. Interested parties are well-advised to keep a close eye on related decisions of the Boards of Appeal and future updates to the Guidelines.

THREE KEY TAKEAWAYS

1. Claim-drafting techniques for CII should be applicable for AI/ML inventions.
2. Original disclosure has to support the technical purpose of the new AI/ML-related features.
3. Decisions of the Boards of Appeal and future updates to the EPO Guidelines are expected to provide further direction on clarity, skilled person, sufficiency, and proof of ownership for AI/ML inventions.

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