New EU Patent Guidelines May Affect Companies' AI Strategy

By **Jennifer Maisel and Eric Blatt** (October 31, 2018)

Innovators in artificial intelligence and machine learning technologies should take note of the European Patent Office's recently published guidelines for artificial intelligence and machine learning, effective Nov. 1, 2018.[1]

The guidelines appear to embrace an application-specific approach to patent eligibility, in which AI and ML technologies applied to fields such as image or signal classification are more likely to be deemed eligible, whereas AI and ML technologies applied to fields such as textual or linguistic classification may face an uphill battle. The guidelines' apparent categorical exclusions of certain AI and ML subject matter stands in contrast to U.S. patent eligibility law, which requires an analysis of the field of application in addition to the technical specificity with which the subject innovation is claimed. This divergence in eligibility law may bear on companies' strategic planning regarding which technologies should be patented, which should be held as trade secrets, and in which jurisdictions patent applications should be filed.

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The European Patent Office Guidelines

The EPO takes the position in the guidelines that AI and ML technologies are based on mathematical methods and are therefore generally excluded from patentability unless tied to a technical application. The guidelines explain that AI and ML "computational models and algorithms for classification, clustering, regression and dimensionality reduction ... are per se of an abstract mathematical nature." The guidelines note, however, that AI and ML "find applications in various fields of technology," and explain that AI and ML technologies may be patent-eligible when those technologies are applied in technical fields of endeavor.

The guidelines provide a small number of guideposts that applicants may use to assess the likelihood that a given application will pass muster under the EPO's analysis. For example, applications such as the "classification of digital images, videos, audio or speech signals based on low-level features" are described favorably, as is "the use of a neural network in a heart-monitoring analysis for the purpose of identifying irregular heartbeats." However, linguistic analysis, such as "[c]lassifying text documents solely in respect of their textual content," is described as serving no technical purpose. The guidelines further state that a classification algorithm having "valuable mathematical properties such as robustness" will not lend technical effect in the absence of a technical application, suggesting that improved accuracy or efficiency in the service of a nontechnical purpose may be insufficient to establish technical effect.

The U.S. Patent and Trademark Office Approach

The U.S. Patent and Trademark Office has not published guidance specific to AI and ML technologies. These technologies are therefore treated under the general eligibility framework established by Alice Corp. v. CLS Bank International,[2] and its progeny, as well as the USPTO's interpretations of those judicial decisions as set forth in various examiner

training modules and policy memoranda. As compared to the EPO guidelines, U.S. eligibility law places less focus on the field of application and greater focus on the manner and specificity in which an innovation is claimed.

Doctrinally, U.S. eligibility law involves a two-step process: One first determines whether the claims are directed to a judicial exception (e.g., an abstract idea), and if so, one next determines whether the claims recite "significantly more" than the judicial exception. In practice, the USPTO's application of this framework largely turns on the specificity with which the innovation is claimed. That is, the various formulations that courts have identified as markers for abstract ideas (e.g., fundamental practices, preemption of technological fields, ability to be practiced in the human mind) apply with lesser force to specifically claimed innovations. Similarly, patent applicants can cite to the Federal Circuit's helpful decision in McRO, Inc. v. Bandai Namco Games America Inc., which held patent claims directed to automation of a 3-D animator's tasks eligible where the "claimed process uses a combined order of specific rules that renders information into a specific format that is then used and applied to create desired results: a sequence of synchronized, animated characters."[3]

The USPTO's recent guidance in the Berkheimer memorandum offers another helpful tool to AI and ML applicants with specific claims, requiring that examiners either (1) show that every element of a patent claim is directed to an abstract idea, or (2) carry a high evidentiary burden to prove that the remaining claim elements are conventional.

Momentum seems to be moving in a direction favorable to patent protection for AI and ML technologies in the U.S. Andrei Iancu, director of the USPTO, suggested in a hearing before the Senate Judiciary Committee that algorithms using AI are patentable as a general proposition, explaining that "[w]e have to make sure our policies, including IP, are highly focused on incentivizing that type of innovation." Numerous industry groups have recommended legislation clarifying and expanding the scope of patent-eligible technologies. And in rare opinions, three judges on the U.S. Court of Appeals for the Federal Circuit have directly criticized the abstract idea eligibility framework and asked Congress or the Supreme Court to revisit the issue.[4]

Takeaways

As we monitor how the EPO will enforce their new guidelines, the U.S. eligibility framework may prove to be more favorable to AI and ML innovators wishing to seek patent protection, particularly for those innovators developing technologies that arguably fall outside the fields of application that are described favorably in the EPO's guidelines.

With the potential for AI and ML innovations to revolutionize nearly every industry, strong and clear guidance for patent protection may incentivize disclosure and better harmonize with other global burgeoning initiatives addressing privacy and ethical issues surrounding these technologies. At the very least, AI and ML innovators should consider the recently published EPO guidelines and how differences between European and U.S. patent eligibility law may inform decisions regarding where research and development resources should be invested, which technologies should be patented, which should be held as trade secrets, and in which jurisdictions patent applications should be filed.

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[1] https://www.epo.org/law-practice/legal-texts/html/guidelines2018/e/g_ii_3_3_1.htm

[2] Alice Corp. v. CLS Bank International, 134 S. Ct. 2347 (2014).

[3] McRO, Inc.v. Bandai Namco Games America Inc., 837 F.3d 1299, 1315 (Fed. Cir. 2016).

[4] Interval Licensing LLC v. AOL, Inc., 896 F.3d 1335 (Fed. Cir. 2018) (Plager, J., concurring-in-part and dissenting-in-part); Berkheimer v. HP Inc., 890 F.3d 1369 (Fed. Cir. 2018) (Lourie, J., concurring, Newman, J., joining in concurring opinion).