United States Patent and Trademark Office Issues Guidance Update on Subject Matter Eligibility of Artificial Intelligence

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The United States Patent and Trademark Office (USPTO) has published guidance regarding the patent subject matter eligibility of claims concerning technology applicable to artificial intelligence (AI).[1] The guidance addresses recent decisions by the U.S. Court of Appeals for the Federal Circuit regarding subject matter eligibility that the USPTO believes are relevant to AI-related inventions. The USPTO also simultaneously published three new examples in the subject matter eligibility index, which is a tool to assist stakeholders and patent examiners in evaluating the subject matter eligibility of pending claims.

OVERVIEW OF THE AI GUIDANCE UPDATE

The USPTO analyzes subject matter eligibility under the Supreme Court's *Alice/Mayo* two-step

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framework. This guidance is not intended to modify the USPTO's current application of the *Alice/Mayo* framework. Instead, the guidance discusses recent cases that are relevant to each step of the eligibility analysis for AI inventions and provides three examples of AI inventions that, depending on the claim, may be directed to eligible subject matter.

Alice/Mayo Step One: Abstract Ideas

The guidance discusses how examiners should consider AI inventions under the first step of the *Alice/Mayo* framework, which asks whether a claim is directed to patent-ineligible subject matter such as an abstract idea.[2] The guidance explains, "While it is common for claims to AI inventions to involve abstract ideas, [examiners] must draw a distinction between a claim that 'recites' an abstract idea (and thus requires further eligibility analysis) and one that merely involves, or is based on, an abstract idea."[3]

Three categories of abstract ideas are specifically discussed: mathematical concepts, methods of organizing human activity, and mental processes. For each category, the USPTO identifies relevant recent Federal Circuit cases and provides commentary. As one example,

the guidance indicates that AI-related claims recite an abstract idea under the "mental process" grouping if they "contain limitations that can practically be performed in the human mind, including, for example, observations, evaluations, judgments, and opinions." The guidance then briefly discusses eight Federal Circuit cases that are potentially relevant to AI-related claims at step one.[4]

Alice/Mayo Step Two: Abstract Idea Implemented into a Practical Application

The guidance then discusses how examiners at the USPTO should consider AI inventions under step two of the *Alice/Mayo* framework, which asks whether "the claim as a whole integrates the recited judicial exception into a practical application of the exception."[5] The guidance specifically discusses evaluating whether the abstract idea from step one "improves the functioning of a computer or improves another technology or technical field" such that it becomes patent eligible. According to the guidance, "[a] key point of distinction to be made for AI inventions is between a claim that reflects an improvement to a computer or other technology described in the specification (which is eligible) and a claim in which the additional elements amount to no more than (1) a recitation of the words 'apply it' (or an equivalent) or are not more than instructions to implement a judicial exception on a computer, or (2) a general linking of the use of a judicial exception to a particular technological environment for field of use (which is ineligible)." The guidance then briefly discusses eight Federal Circuit cases that are potentially relevant to AI-related claims at step two.[6]

Subject Matter Eligibility Examples

The USPTO previously published 46 examples applying the *Alice/Mayo* framework to assist examiners and stakeholders during patent prosecution. The USPTO added three examples directed to technology applicable to AI-related inventions. Each example includes exemplary patent-eligible and patent-ineligible claims, with accompanying commentary explaining why each exemplary claim is or is not patent eligible.

- Example 47 relates to "an artificial neural network (ANN) to identify or detect anomalies."

- Example 48 relates to "artificial intelligence-based methods of analyzing speech signals and separating

desired speech from extraneous or background speech."

- Example 49 relates to an "artificial intelligence model that is designed to assist in personalizing medical treatment to the individual characteristics of a particular patient."

CONCLUSION

The USPTO guidance seeks to improve consistency in the application of patent subject matter eligibility analysis for technologies that are applicable to AI inventions before the USPTO. This guidance is not binding on federal courts; however, interested stakeholders should carefully review this guidance to evaluate how it applies to pending patent applications that claim AI-related inventions.

Notes

1. 2024 Guidance Update on Patent Subject Matter Eligibility, Including on Artificial Intelligence, 89 Fed. Reg. 58128 (July 17, 2024), available at https://www.govinfo.gov/content/pkg/FR-2024-07-17/pdf/2024-15377.pdf.

2. The USPTO applies step one of the Alice/Mayo framework in Step 2A, Prong One of its analytical framework set forth in the Manual of Patent Examining Procedure (MPEP).

3. 89 Fed. Reg. 58128 at 58134.

4. See XY, LLC v. Trans Ova Genetics, 968 F.3d 1323, 1330–32 (Fed. Cir. 2020); Weisner v. Google LLC, 51 F.4th 1073, 1082 (Fed. Cir. 2022); Elec. Commc'n Techs., LLC v. ShoppersChoice.com, LLC, 958 F.3d 1178, 1181 (Fed. Cir. 2020); Bozeman Fin. LLC v. Fed. Reserve Bank of Atlanta, 955 F.3d 971, 978 (Fed. Cir. 2020); ADASA Inc. v. Avery Dennison Corp., 55 F.4th 900, 909 (Fed. Cir. 2022); Trinity Info Media, LLC v. Covalent, Inc., 72 F.4th 1355, 1362 (Fed. Cir. 2023); In re Killian, 45 F.4th 1373, 1379 (Fed. Cir. 2022); PersonalWeb Techs. LLC v. Google LLC, 8 F.4th 1310, 1316–18 (Fed. Cir. 2021).

5. The USPTO applies step two of the Alice/Mayo framework in Step 2A, Prong Two of its analytical framework set forth in the MPEP.

6. See In re Board of Trustees of Leland Stanford Junior University, 989 F.3d 1367, 1370, 1373 (Fed. Cir. 2021) (Stanford I); McRO, Inc. v. Bandai Namco Games America Inc., 837 F.3d 1299 (Fed. Cir. 2016); ADASA, 55 F.4th at 909; Inst. of Tech. v. Broadcom Ltd., 25 F.4th 976, 988 (Fed. Cir. 2022); Packet Intel. LLC v. NetScout Sys., Inc., 965 F.3d 1299, 1308–10 (Fed. Cir. 2020); Uniloc USA, Inc. v. LG Elec. USA, Inc., 957 F.3d 1303, 1305, 1307–08 (Fed. Cir. 2020); CardioNet, LLC v. InfoBionic, Inc., 955 F.3d 1358, 1368-69 (Fed. Cir. 2020); Koninklijke KPN N.V. v. Gemalto M2M GmbH, 942 F.3d 1143, 1150-51 (Fed. Cir. 2019).

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