

USPTO Aims to Boost Patent Eligibility of AI and ML Inventions

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The US Patent and Trademark Office (USPTO) has issued new guidance to clarify and improve the evaluation of patent eligibility for artificial intelligence (AI) and machine learning (ML) inventions in order to foster innovation and patenting of these cutting-edge technologies.

On August 4, the USPTO issued a **memorandum** to examiners in Technology Centers 2100, 2600, and 3600, providing critical reminders and clarifications on the evaluation of subject matter eligibility under 35 U.S.C. § 101, with particular emphasis on software-related inventions, including those involving AI and ML. This memorandum is expected to boost patent eligibility for AI and ML technologies by addressing common challenges in distinguishing patent-eligible subject matter from judicial exceptions and by offering practical direction for both examination and patent drafting.

Overview of USPTO Subject Matter Eligibility Guidance

The memorandum reiterates that examiners should rely on the Manual of Patent Examining Procedure (MPEP) sections 2103-2106.07 and the 2024 Guidance Update on Patent Subject Matter Eligibility, including AI-specific updates. These resources, along with recent eligibility examples, provide the framework for analyzing claims under the two-step Alice/Mayo test as reflected in the USPTO's subject matter eligibility flowchart.

Practice Point: Practitioners may want to ensure that claim language and supporting specifications

are consistent with the latest MPEP guidance and AI-specific eligibility examples

Analyzing Claims for Patent-Eligible Subject Matter

The memorandum provides detailed reminders on the application of Step 2A of the eligibility analysis, which is divided into two prongs.

Step 2A Prong One: Identifying Judicial Exceptions

Examiners are reminded to determine whether a claim recites a judicial exception, such as an abstract idea, law of nature, or natural phenomenon. For software-related inventions, abstract ideas are further grouped into mathematical concepts, certain methods of organizing human activity, and mental processes.

- **Mental Process Grouping:** Claims that can be practically performed in the human mind (e.g., observations, evaluations, judgments) are considered mental processes and thus abstract ideas. However, limitations that cannot be practically performed in the human mind — such as those involving complex AI computations — do not fall within this grouping.
- **Distinguishing “Recites” vs “Involves” a Judicial Exception:** Claims that merely involve, but do not recite, a judicial exception are not subject to further eligibility analysis. For example, a claim to “training a neural network” without specifying mathematical algorithms may not recite an abstract idea, whereas a claim specifying “backpropagation” and “gradient descent” algorithms does.

Practice Point: When drafting AI/ML claims, avoid unnecessary recitation of mathematical algorithms unless essential to the invention. Instead, focus on technical features or improvements that cannot be performed mentally, and clarify in the specification how the claimed invention transcends mere mental processes. In addition, when responding to rejections of AI/ML claims under Step 2A Prong One, make sure to argue that mathematical operations on multidimensional matrices and vectors inherent in the functioning of deep neural networks and large language models (LLMs) cannot be practically performed in the human mind.

Step 2A Prong Two: Integration Into a Practical Application

If a claim recites a judicial exception, examiners must determine whether the claim as a whole integrates the exception into a practical application. This includes:

- **Analysis of the Claim as a Whole:** All claim limitations and their interactions must be considered collectively, not in isolation.
- **Improvements to Technology or Technical Field:** Claims that provide a particular solution to a technological problem or improve the functioning of a computer or another technical field, are more likely to be patent-eligible.
- **“Apply It” Consideration:** Claims that merely instruct to “apply” an abstract idea on a generic computer are not patent-eligible. Examiners are cautioned against oversimplifying claims and must assess whether the claim details a specific technological improvement.

Practice Point: Clearly articulate in the specification and claims how the invention provides a

technological improvement or solves a technical problem. Avoid generic computer implementation and instead emphasize inventive technical features or architectures, particularly in AI/ML contexts. In addition, when faced with rejections under Step 2A Prong Two, make sure to explain how claim limitations — including components of a compound AI system, elements of an ML model, or steps of the software algorithm — interact and impact each other when demonstrating how the exception is integrated into a practical application.

Threshold for Making Subject Matter Eligibility Rejections

The memorandum instructs examiners that eligibility rejections should only be made when it is more likely than not that a claim is ineligible. Uncertainty alone is insufficient for rejection; a preponderance of the evidence is required. Examiners are also reminded to conduct a complete examination of every claim — including all dependent claims — under all statutory requirements (35 U.S.C. §§ 101, 102, 103, 112) in the first office action.

Practice Point: When drafting AI/ML patent applications, include a robust set of substantive dependent claims that add specific technical features and improvements. During prosecution, ensure the examiner has thoroughly examined all dependent claims, especially under Section 101. If rejections lack detailed reasoning, address these gaps by emphasizing the technical contributions and practical applications of each dependent claim. This approach strengthens the application and aids in overcoming eligibility rejections.

Conclusion

The USPTO's memorandum provides essential and timely guidance to patent examiners and practitioners. It clarifies the application of subject matter eligibility criteria to software-related inventions, including those involving AI and ML. It aims to resolve common challenges in patenting these technologies, streamline the examination process for software patent applications, and foster innovation and patenting in the field of AI and ML.

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