

PATENT AND TRADEMARK LAW

Navigating the Intersection of AI and Abstract Ideas: The Federal Circuit's Decision in *Recentive* and the USPTO's AI-Eligibility Guidance

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Introduction

Artificial intelligence patents now sit at the crossroads of administrative guidance and fastmoving judicial precedent.

On July 17, 2024, the U.S. Patent and Trademark Office ("USPTO") published its *2024 Guidance Update on Patent Subject Matter Eligibility, Including on Artificial Intelligence* (the "2024 Update") to help patent examiners—and patent applicants—navigate §101 for AI-driven inventions.

Barely nine months later, the Federal Circuit issued its opinion in *Recentive Analytics, Inc. v. Fox Corp.* (Apr. 18, 2025), holding four machine learning scheduling patents invalid as patent ineligible.

Recentive is the first precedential opinion squarely applying the *Alice/Mayo* test to machine learning claims, and raises the question of how the Federal Circuit's treatment of §101 for AI-driven inventions squares with the USPTO's guidance—and perhaps more importantly, what parties can do going forward to better draft and litigate such patent claims.

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Courtesy photo

At a high level, both the USPTO and the Federal Circuit now speak with one voice: AI inventions must claim genuine technological improvements—not simply the automation of a human workflow with off-the-shelf algorithms.

The discussion below unpacks the USPTO update, traces the holding of *Recentive*, and provides practical guidance for practitioners in its wake.

The USPTO's 2024 Guidance Update on Patent Subject Matter Eligibility for AI

The 2024 Update was released under Executive Order 14110's directive to promote "safe, secure, and trustworthy AI." It did not change the statutory or Supreme Court framework; rather, it consolidates earlier USPTO

memos, clarifies the eligibility analysis for computer-implemented invention, and explicitly addresses AI-related claims.

As in the past, examiners must still apply *Alice* step one (i.e., considering whether the claim is “directed to” an abstract idea, law of nature, or natural phenomenon) and, if needed, step two (whether the claim involves something more that amounts to an “inventive concept”).

The Update’s chief contribution is its spotlight on what constitutes a “practical application.” An AI claim survives step one when it recites how the model achieves a specific, technological improvement—perhaps, for example, a data pipeline that materially boosts accuracy.

The discussion below unpacks the USPTO update, traces the holding of *Recentive*, and provides practical guidance for practitioners in its wake.

Simply automating a known business practice with generic machine learning tools in general will not be enough. To illustrate the dividing line, the USPTO provided a number of illustrative examples.

Example 47, related to anomaly detection, is eligible because it discloses a multilayer architecture tuned to detect outliers in real-time sensor data—a concrete technical advance. By contrast, a blackbox reference to “an AI model configured to detect anomalies” would fail.

The Federal Circuit’s Decision in *Recentive Analytics v. Fox Corp.*

Against the backdrop of the 2024 Guidance, the *Recentive Analytics* case concerned the patent eligibility of four *Recentive* patents directed to using machine learning for generating event schedules and network maps for television broadcasts.

The patents in suit fell into two general groups: “Machine Learning Training” patents for event

scheduling, and “Network Map” patents for creating broadcaster network maps.

The claimed methods generally involved collecting data (event parameters, target features, broadcasting schedules), providing this data to a machine learning model, training the model (iteratively identifying relationships or optimizing ratings), generating optimized schedules or network maps, and dynamically updating them based on real-time changes.

Recentive sued Fox Corporation for infringement, and, after Fox filed a motion to dismiss under 35 U.S.C. §101, the Delaware district court dismissed the case, finding the patents were directed to ineligible subject matter. *Recentive* appealed.

On appeal, a key aspect noted by the Federal Circuit was that the patents described the machine learning used as generic and conventional, employing “any suitable machine learning technique, . . . such as, for example: a gradient boosted random forest, a regression, a neural network, a decision tree, a support vector machine, a Bayesian network, [or] other type of technique.”

According to the Federal Circuit, *Recentive* conceded that the underlying processes of preparing network maps and event schedules “existed for a long time” and were previously performed manually by humans. *Recentive* also acknowledged that the patents did not claim the machine learning technique itself, but its application to event scheduling and network map creation.

Furthermore, The Federal Circuit also found that *Recentive*, in essence, admitted that iterative training using selected training material and dynamic adjustments based on real-time changes are incident to the very nature of machine learning.

Applying the *Alice/Mayo* test, the Federal Circuit first found that the claims were directed to abstract ideas: the production of network

maps and event schedules using known mathematical techniques.

The court explained that applying a generic machine learning technique in a particular environment, like event scheduling or network map creation, constitutes an abstract idea. Limiting an abstract idea to a specific field of use or technological environment does not make it non-abstract. Similarly, applying existing technology to a novel database is insufficient for eligibility.

Second, the court found that the claims lacked an inventive concept sufficient to transform the abstract idea into a patent-

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eligible application. The court reasoned that the machine learning limitations, including iterative training and dynamic adjustments based on real-time data, were inherent to machine learning and did not represent a technological improvement.

The claims did not describe *how* such an improvement was accomplished, relying instead on functional language. The court stressed that performing a task previously done by humans with greater speed and efficiency using computers, without improved computer techniques, does not impart patent eligibility.

Ultimately, the Federal Circuit affirmed the decision of the district court, and concluded “patents that do no more than claim the application of generic machine learning to new data environments, without disclosing improvements to the machine learning models to be applied, are patent ineligible under §101.”

Reconciling *Recentive* with the USPTO Guidance

The Federal Circuit’s decision in *Recentive Analytics* demonstrates a fairly strong alignment with the principles and analytical framework set forth in the USPTO’s 2024 Guidance Update.

Under Step 2A, Prong One of the USPTO’s framework, examiners determine if a claim recites an abstract idea. The *Recentive* court concluded that the claims were directed to abstract ideas related to generating event schedules and network maps using known mathematical techniques.

These underlying processes involve calculations, analysis, and optimization—activities that fall squarely within the “mathematical concepts.” *Recentive*’s concession that these processes were performed manually before computers further supports the characterization of the underlying concept as a known human activity. Thus, the *Recentive* decision’s Step 1 finding is unsurprisingly consistent with the USPTO guidance.

The core of the alignment lies in the Step 2A, Prong Two analysis regarding practical application and technological improvement. The USPTO guidance emphasizes that eligibility can be found if a claim integrates the abstract idea by demonstrating an improvement in computer functioning or another technology, requiring a *particular solution* and disclosing *how* the improvement is achieved.

The reasoning in *Recentive* mirrors this requirement by finding that the claims failed to disclose an inventive concept because they did not demonstrate such a technological improvement.

While the Federal Circuit framed its second step analysis in terms of searching for an “inventive concept” under *Alice* step two, the reasoning employed—evaluating whether additional elements amount to “significantly more” by improving technology or providing a specific solution—is fundamentally aligned with

the Step 2A, Prong Two “practical application” and “improvements” considerations detailed in the USPTO’s 2024 guidance.

Practical Pointers for Patent Counsel and Patent Litigants

The Federal Circuit’s decision in *Recentive Analytics* provides a clear judicial endorsement of the principles articulated in the USPTO’s 2024 Guidance Update regarding the patent eligibility of AI inventions.

The case underscores that merely applying generic machine learning techniques to a known process or a new data environment, even if it results in increased speed or efficiency, is likely to be deemed directed to an abstract idea without an inventive concept, thus rendering the claims patent ineligible.

The critical missing piece in *Recentive*, and often in such cases, is a disclosed technological improvement—either to the machine learning technique itself or to the underlying technology or technical field through the specific implementation of the AI.

For practicing attorneys, both patent specialists and generalists advising on AI innovation, this alignment between *Recentive* and the USPTO guidance offers valuable, albeit challenging, practical guidance:

- **Focus on Technological Improvement:** When drafting patent applications for AI inventions, the primary focus should be on identifying and clearly claiming how the invention provides a **specific technological solution to a technological problem**. This means going beyond simply stating that AI or machine learning is used to perform a task.
- **Articulate the “How”:** The claims and specification must clearly delineate the **specific technical details** of *how* the AI technique is implemented or adapted to achieve a **concrete improvement** in the functioning of a computer

or another technology. Functional claiming that describes *what* the AI does without explaining the technical means may be insufficient.

- **Improve the AI, Not Just the Result:** If the invention is in the AI model itself, the claims should focus on the specific architectural, training, or operational improvements to the model that provide a technical benefit. Or, if the invention is an application of AI, it should demonstrate how that application solves a technical problem in a non-abstract way, perhaps through novel integration with other technical components or systems.
- **Avoid Generic Application:** Claims that broadly cover applying “any suitable machine learning technique” to a particular dataset or field of use without more will likely face eligibility challenges.
- **Consider Fallback Claims to Hardware:** Include a fallback claim set reciting the AI engine in dedicated hardware—ASICs, FPGAs, or edge devices—which may help to sidestep Alice abstractness. As a related strategy, lead with system-based independent claims, and add the machine learning or AI aspects in dependent claims.
- **Consider Other Forms of IP Protection:** For AI innovations that are more focused on business methods, data analysis, or improvements in efficiency without a clear technical improvement, other forms of intellectual property protection, such as trade secrets or copyright, may be more appropriate.

Ultimately, the alignment of the Federal Circuit in *Recentive* and the USPTO’s guidance, particularly in an area that has been unpredictable for years, provides a helpful and consistent baseline for practitioners—both in drafting patent claims that are more likely to withstand the crucible of Section 101, and in seeking to defend against such claims.