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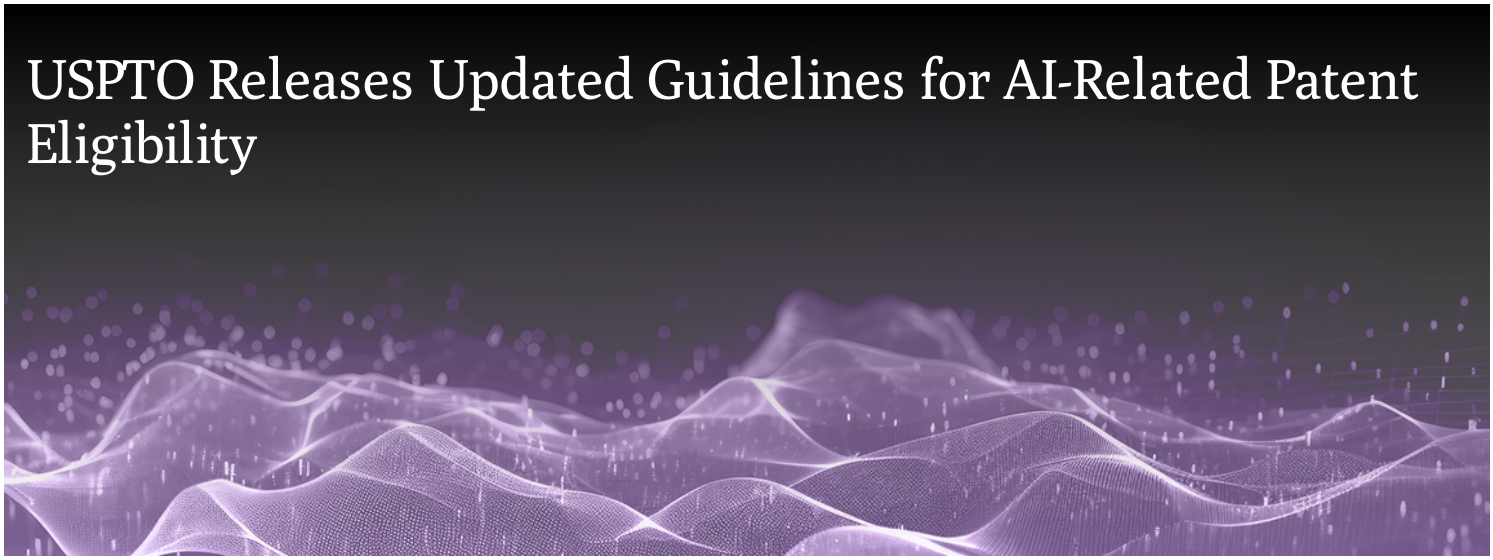
CLIENT ALERT

USPTO Releases Updated Guidelines for AI-Related Patent Eligibility



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The United States Patent and Trademark Office (USPTO) has released updated guidelines for AI-related patent eligibility, effective July 17, 2024, and open for public comment until September 16, 2024. The guidance aims to clarify that AI inventions are not automatically abstract ideas that are unpatentable, particularly when they involve specific hardware implementations, or integrate AI into practical applications that serve to improve underlying technology. More specifically, the USPTO clarified that while AI-assisted inventions are not categorically unpatentable, a human must nonetheless "ma[k]e a significant contribution to the claimed invention."

The Updated Guidelines provide three examples to illustrate the USPTO's clarification as to what is patentable: an artificial neural network for detecting anomalies, AI-based methods of speech separation, and an AI model designed for personalizing medical treatment, each demonstrating how claims can be eligible according to the *Alice/Mayo* 2-step framework.

EXAMPLE 1: ANOMALY DETECTION

- Claim 1 – ASIC (Application Specific Integrated Circuit) for an Artificial Neural Network
  - **Eligible**, because it falls within a statutory category, and there was no judicial exception recited in the claim.
- Claim 2 – Method of using an Artificial Neural Network
  - **Ineligible**, because one limitation recites an abstract idea ("discretizing continuous training data to generate input data by processes including **rounding, binning, or clustering** continuous data") which can be "**performed in the human mind** using observation, evaluation, judgment, and opinion," and therefore did not integrate the exception into a practical application.
- Claim 3 – Method of using an Artificial Neural Network to detect malicious network packets
  - **Eligible**, because although it recites the judicial exception of abstract idea ("detecting one or more anomalies in network traffic"), the claim as a whole included an improvement to the technical field of network intrusion detection **by improving network security** (taking real-time remedial actions, rather than just alerting an administrator as existing systems had done).

EXAMPLE 2: SPEECH SEPARATION

- Claim 1 – Method of speech separation
  - **Ineligible**, because it recites mathematical concepts ("converting mixed speech signal into a spectrogram," "using short time Fourier transform," and "determining embedding vectors" without further detail). The additional elements of receiving a mixed speech signal and using a deep neural network were found to be **insignificant extra-solution activity** and **mere instructions** to apply the exception using a generic computer component, respectively.
- Claim 2 – [Dependent] Method of speech separation
  - **Eligible**, because although it recites the same judicial exceptions as Claim 1, the claim as a whole **integrates the abstract idea into a practical application** by including steps for synthesizing speech waveforms from masked clusters and generating a mixed speech signal that excludes speech from an undesired source.
- Claim 3 – Non-transitory, computer-readable storage medium
  - **Eligible**, because although it recites mathematical concepts ("clustering the embeddings using a k-means clustering algorithm," "applying binary masks to clusters"), the claim as a whole integrates the abstract idea into a practical application by including steps for **converting masked clusters into separate speech signals** and **generating a transcript** from spectral features of a target source, which improves transcription performance for accented speakers.

EXAMPLE 3: FIBROSIS TREATMENT

- Claim 1 – Post-surgical fibrosis treatment method
  - **Ineligible**, because it recites an abstract idea ("identifying [a patient] as at high risk…based on a weighted polygenic risk score") and mathematical concepts (generating "a weighted polygenic risk score" using multiplication and addition). The additional elements of collecting and genotyping a sample were found to be **insignificant extra-solution activity** (mere data gathering), and "administering an appropriate treatment" was **not specific enough** to integrate the judicial exception into a practical application.
- Claim 2 – [Dependent] Wherein the appropriate treatment is Compound X eye drops
  - **Eligible**, because even though it recites the same judicial exception, as a whole, the claim integrates the exception into a practical application by **providing a particular treatment that meaningfully limits the judicial exception**, and is therefore not "directed to" the judicial exception.

Whether the Updated Guidelines will help clarify the ongoing dialogue about whether and what AI-generated content is patentable remains to be seen. Initial reaction appears to be mixed with some public discourse suggesting that the guidance may have instead provided more confusion than clarity—particularly regarding the Speech Separation example, and whether the "speech mask" in the specification was described with sufficient technical detail such that it would withstand potential challenges from defense attorneys. These concerns highlight the USPTO's decision to open this guidance for public comment, where the USPTO can address these issues and further refine the guidance to ensure it provides clear and consistent direction for patent practitioners and examiners.

Key Takeaway

The USPTO's new guidance offers more nuance for examiners to evaluate AI-related patent claims, and ultimately, the fundamental requirement remains that the claimed invention must present a technical solution to a technical problem to be patent-eligible.

3 Min Read

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