

Insights: Alerts

Federal Circuit Clarifies Patent Eligibility of Inventions Involving the Use of Machine Learning Models

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In *Recentive Analytics, Inc. v. Fox Corp.*, No. 2023-2437, slip op. at 18 (Fed. Cir. April 18, 2025), the Federal Circuit held that “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 [35 U.S.C.] § 101.”

The invention in this case purportedly solved the problem of how to optimize the scheduling of live events and how to optimize “network maps” which determine programs or content displayed by a broadcaster’s channels within certain geographical markets at particular times. The invention included training a machine learning model on a number of event parameters and target features. The trained machine learning model was then used to schedule events. An example claim from one of the patents discussed in the decision is below.

1. A computer-implemented method of dynamically generating an event schedule, the method comprising:

receiving one or more event parameters for series of live events, wherein the one or more event parameters comprise at least one of venue availability, venue locations, proposed ticket prices, performer fees, venue fees, scheduled performances by one or more performers, or any combination thereof;

receiving one or more event target features associated with the series of live events, wherein the one or more event target features comprise at least one of event attendance, event profit, event revenue, event expenses, or any combination thereof;

providing the one or more event parameters and the one or more event target features to a machine learning (ML) model, wherein the ML model is at least one of a neural network ML model and a support vector ML model;

iteratively training the ML model to identify relationships between different event parameters and the one or more event target features using historical data corresponding to one or more previous series of live events, wherein such iterative training improves the accuracy of the ML model;

receiving, from a user, one or more user-specific event parameters for a future series of live events to be held in a plurality of geographic regions;

receiving, from the user, one or more user-specific event weights representing one or more prioritized event target features associated with the future series of live events;

providing the one or more user-specific event parameters and the one or more user-specific event weights to the trained ML model;

generating, via the trained ML model, a schedule for the future series of live events that is optimized relative to the one or more prioritized event target features;

detecting a real-time change to the one or more user-specific event parameters;

providing the real-time change to the trained ML model to improve the accuracy of the trained ML model; and

updating, via the trained ML model, the schedule for the future series of live events such that the schedule remains optimized relative to the one or more prioritized event target features in view of the real-time change to the one or more user-specific event parameters.

The Federal Circuit applied the two-step patent eligibility inquiry as set forth in *Alice Corporation v. CLS Bank International*, 573 U.S. 208 (2014), to the claim.

Under the first step, the Federal Circuit evaluated whether the claims focus on “the specific asserted improvements in computer capabilities ... or, instead on a process that qualifies as an abstract idea for which computers are invoked merely as a tool.” The Federal Circuit concluded that the invention lacked a specific technical improvement and therefore recited an abstract idea. In arriving at this conclusion, the Federal Circuit stated that the invention used generic machine learning technology to carry out the claimed methods for generating event schedules and network maps. Specifically, it referred to the patent specification's statement that “any suitable machine learning technology” including a laundry list of known machine learning methods may be used in the invention. Notably, the Federal Circuit rejected the patentee's argument that the claims were eligible because they applied machine learning to a new field of use.

Under the second step, the Federal Circuit stated that it did not find anything in the claims that would be “significantly more” than the abstract idea of “generating event schedules and network maps through the application of machine learning.”

To date, the USPTO's approach to applying the two-step patent eligibility test to machine learning inventions has been confusing. This decision will give the examiners at the USPTO a clearer basis for rejecting patent applications that broadly claim the use of machine learning in specific fields of use.

Below are some takeaways to consider when evaluating machine learning inventions for patenting:

1. Inventions that apply a known machine learning model to a new type of data are likely to be rejected by the USPTO. Inventions that might fall into this category should be carefully evaluated to determine if there is arguably an improvement in the machine learning model itself. If there is an improvement in the machine learning model, the specification should focus on details of the improved machine learning

model. Quantifying the improvement, rather than generally alleging that an improvement exists, will strengthen the argument for patent eligibility.

2. If an invention uses one preferred type of machine learning model, it may be better to focus the description of the invention in a patent application on the specific type of machine learning model, rather than stating that any machine learning model can be used. The specification should include an explanation as to why the preferred type of machine learning model was chosen.
3. If there are significant pre-processing or post-processing steps associated with the training and/or use of a machine learning model in an invention, then those steps should be evaluated to determine if they are patentable in combination, independent of the machine learning model aspects of the invention.

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