

# Artificial Intelligence, Machine Learning and Robotics

## AI Inventions and Patentability

BY STEVE LAWRENZ

Artificial intelligence (AI) and machine learning (ML) solutions play an ever-expanding role in the economy and are the subject of intensive research and development efforts by many organizations. Developing a framework for identifying AI and ML innovations and evaluating inventions as candidates for patent protection requires an understanding of the techniques that can be used to obtain the most valuable intellectual property protection for inventions in this field.

### 1 CONSIDER THE ENTIRE AI/ML PIPELINE WHEN IDENTIFYING INVENTIONS

AI/ML solutions are very often implemented in heterogeneous, multi-phased processes that involve such stages as sourcing and preparing observation data, designing and training an ML model, and applying the trained model to data to be evaluated. Because innovations can occur at any point in this process, an approach that examines the entire process to identify inventions will produce the most complete results.

### 2 REVIEW WITH A MULTIDISCIPLINARY TEAM

Ideally, your review team should include a member of the development organization who has big-picture visibility into the entire solution, a handful of development team members with more detailed technical knowledge of key aspects of the solution, and the salesperson with the greatest responsibility for selling the solution. A patent attorney can participate from the beginning to evaluate patent law considerations for each identified invention, or be brought in later once a list of participants has been generated.

### 3 APPLY EXPECTED VALUE ANALYSIS TO ASSESS IDENTIFIED INVENTIONS

To capitalize on the value-creating potential of your patent, appraise inventions using an expected value approach in which patent value factors are considered alongside patentability factors for each invention.

### 4 USE ASSESSMENTS TO PRIORITIZE INVENTIONS IN ONE OR MORE WAYS

Expected value appraisals can be used as a basis for prioritizing the identified inventions against one another. This prioritization may be used, for example, to decide which inventions should be the subject of U.S. patent applications, the order in which these applications should be filed, and/or whether foreign counterpart applications should be pursued.

### 5 SELECT INVENTIONS TO INCLUDE DIVERSE RISK/REWARD PROFILES

While our approach posits that inventions with the highest combination of value and patentability factors are most helpful to pursue, we also recognize the contributions that uniquely high-value and/or highly patentable inventions can make to a portfolio, and recommend their inclusion.