ARTIFICIAL INTELLIGENCE IS A GAME CHANGER FOR LEGAL PROFESSIONALS

#1 What is AI?

As artificial intelligence ("AI") continues to dominate headlines, investments, and the imaginations of the public, understanding precisely what artificial intelligence is, and how it may benefit the legal profession, will be required to compete in the modern world. This article provides the basics so you can get up to speed on how AI can benefit you as a business litigator.

At its most basic level, artificial intelligence is the simulation of human intelligence in machines designed to think, learn, and problem-solve like humans. AI systems essentially make predictions, then decisions, based on large amounts of data and recognizing patterns. It operates using algorithms—sets of instructions that guide AI in performing tasks. Machine learning, a subset of AI, involves training models on data to improve their performance over time, allowing them to learn from experience without explicit programming for every situation. Examples of companies utilizing machine learning range from Google to SAP.

Another break-through technology is neural networks. Neural networks, such as those utilized by OpenAI and IBM, are inspired by the human brain, and are commonly used in AI to recognize patterns. This makes those platforms effective for tasks such as image recognition, natural language processing, and autonomous driving. In sum, AI relies on vast datasets, computational power, and sophisticated algorithms to function effectively.

#2 How Does AI Predict Outcomes?

Diving a bit deeper, AI uses numbers to predict outcomes by processing data through mathematical models, which are built around numerical representations of the data. In machine learning, the process typically starts with raw data that is converted into numbers (e.g., images turned into pixels, words turned into vectors) so the algorithm can interpret and work with it.

When making predictions, AI algorithms typically involve statistical methods and probability. For example, in regression analysis, which you would be familiar with because of its use in marketing and analytics, the AI uses numbers to identify relationships between variables, allowing it to predict a continuous outcome (e.g., predicting the price of a house based on its features like size, location, etc.). In classification problems, for example, OpenAI's ChatGPT, numbers are used to calculate probabilities, determining which category an item belongs to (e.g., spam or not spam in email filtering).

#3 What are Machine Learning Models?

Machine learning models, such as neural networks, use numbers in layers of calculations. Each layer applies mathematical functions (like weights, biases, and activation functions) to adjust and refine the model's predictions. These functions iteratively adjust the numbers (weights and biases) based on feedback from the model's performance, improving predictions over time.

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The model is trained using these numerical updates to reduce error and make more accurate predictions in future scenarios. Put simply, AI is a predictor of the next logical sequences of numbers, represented as words. Such predictions have deep applicability in the legal profession. As this series continues, I will explain how AI offers value to the legal profession and services you can use to be more efficient, lower litigation costs, and to decrease your firm overhead.

"Firms are increasingly adopting AI tools to maintain competitive parity and to avoid the risk of falling behind peers who are leveraging these technologies for enhanced efficiency and client service." - Tom Martin, National Review, October 9, 2024.

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