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**Practical Uses of AI in M&A:  
Large Language Models to Create New Realities**

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## What is Generative AI?

Generative AI systems are a subset of artificial intelligence that use machine learning models to generate new content, such as images, text, and even music, based on patterns learned from existing data. These systems are designed to mimic the creative abilities of humans, and they have a wide range of potential applications in industries such as art, music, and design, as well as in the legal field.

At the heart of generative AI systems are machine learning models that use algorithms to analyze large datasets and identify patterns. These models are trained on existing data, such as images or text, and then use that information to generate new content. The most common types of machine learning models used in generative AI systems are neural networks, which are designed to mimic the structure and function of the human brain.

One of the key challenges in developing generative AI systems is ensuring that the generated content is of high quality and meets certain standards. To address this challenge, researchers are exploring a variety of techniques, such as adversarial training, which involves training two neural networks to compete against each other to generate more realistic content<sup>1</sup>.

In the legal field, generative AI systems are being used to automate routine legal tasks, such as document review and contract analysis. These systems use machine learning models to analyze large volumes of legal documents and extract key information, such as clauses and provisions. This can save lawyers significant amounts of time and increase efficiency in the legal practice<sup>2</sup>.

LLMs, or Language Model Models, are a type of machine learning model that is used in generative AI systems to generate natural language text. These models are trained on large datasets of text and use algorithms to identify patterns and relationships between words and phrases. LLMs are used in a wide range of applications, including chatbots, language translation, and text generation<sup>3</sup>.

In addition to LLMs, other technologies such as natural language processing (NLP) and computer vision are also important components of generative AI systems. NLP is used to analyze and understand human language, while computer vision is used to analyze and understand visual content, such as images and videos. These technologies work together to enable generative AI systems to analyze and generate content across a wide range of media and formats<sup>4</sup>.

Overall, generative AI systems are a powerful tool for automating routine tasks and generating new content. As these systems continue to evolve and improve, they have the

potential to transform a wide range of industries, including the legal field, and enable new forms of creativity and innovation.

### **Got It. Can You Dumb It Down for Me?**

Have you ever played with a mad libs game? You know, where you fill in the blanks in a story with different words to create a silly or funny story? Well, that's kind of like how LLMs, or Language Model Models, work in generative AI.

LLMs are computer programs that are designed to understand and generate human language. They work by analyzing large amounts of text, like books or websites, to learn how words and phrases are used together. Then, when you give an LLM a prompt, like a sentence or a question, it uses what it's learned to generate a response that makes sense.

For example, let's say you ask an LLM, "What's the weather like today?" The LLM might use what it's learned from analyzing weather reports and other texts to generate a response like, "Today, it's sunny and warm with a high of 80 degrees."

LLMs are a type of machine learning, which means they're constantly improving and getting better at understanding and generating language. They're used in a lot of different applications, like chatbots and language translation, and they're an important component of generative AI.

Generative AI is like a big creative machine that can generate new things, like images, music, and even stories. LLMs are a key part of that machine because they help the machine generate natural-sounding language. Just like how you can use a mad libs game to generate a silly story, generative AI can use LLMs to generate new stories, poems, and even news articles.

So, in summary, LLMs are computer programs that understand and generate human language, and they're an important part of generative AI, which is like a big creative machine that can generate new things. Just like how you can use a mad libs game to create funny stories, generative AI can use LLMs to create new stories, poems, and more.

### **Why Does This Matter to The Legal Profession?**

Generative AI has been making waves in the legal profession recently. A recent survey of law firm lawyers showed that a large majority (82%) believe that ChatGPT and generative AI can be readily applied to legal work, and a slightly smaller majority (51%) said that ChatGPT and generative AI should be applied to legal work<sup>5</sup>. OpenAI's release of ChatGPT in late 2022 has galvanized the collective imagination and anxiety of the legal profession<sup>6</sup>. Five companies announced new offerings built around generative AI or OpenAI's GPT models at Legalweek 2023, becoming some of the first legal tech companies to push forward with generative AI<sup>7</sup>. Allen & Overy, a large firm based in

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