Machine Learning versus Generative AI

At ContractPodAI's **LINK *Live!*** breakout Session, we discussed the frequent use of the term "AI" by legal tech vendors and service providers. Many companies claim their tools utilize AI, but it's important to distinguish between Machine Learning and the more advanced Generative AI. Below is a guide to understanding these buzzwords and their actual capabilities.

Machine Learning	vs.	**Generative AI**
Manual Metadata Tagging of Docs		Auto-extraction of Metadata from docs
Needs to be Trained		Pre-Trained: Needs a Knowledge Base to Reference
Long Time to MVP (min. viable product)		Works Out of the Box (or Close to it) for MVP
Swaps Clauses from Clause Library		Surgically Redlines based on Rules
Long Lead Time to Custom Demo (need weeks)		Short Lead Time to Custom Demo (live or near live)
No Explanation of Output		Gives Rationale for Output
Finds Legal Text		Query in Natural Language for Legal Concepts
Rely on Vendor to Change Model's Behavior		Self-Serve to Change Model's Behavior
"We've Built Our Own Model"		"A Multi-model Approach is Best"

As Quinton Brown so eloquently put it, it's "*Text*" with Machine Learning, versus "*Context*" with Generative AI.

Machine Learning (ML)

1. Manual Metadata Tagging: ML doesn't understand unstructured text Out of the Box (OOTB) and needs a large set of your tagged (e.g., structured) docs. Typically, the client is asked to manually tag large volumes of example docs.
2. Training: The process for training ML models is time, data, and resource intensive. A degree in data science is typically required.
3. Time to MVP (Minimum Viable Product): Developing an ML model to the MVP stage takes considerable time, typically months or quarters to get to a model for your docs.
4. Clause Library: ML relies on predefined libraries of clauses or components to then identify the exact "bags of words" it's been trained on. Identifies a problem clause and swaps it fully for your preferred clause.
5. Long Lead Time to Custom Demo: Due to training needed for the model, preparing a demo of an ML solution typically requires a lengthy lead time of at least weeks and multiple metadata-tagged examples for training.
6. No Explanation of Output: ML models identify "bags of words" but struggles to provide explanations for outputs (ex: why it redlined a section a certain way), as ML models cannot reason.
7. Finds Legal Text: You can search words or phrases using ML but it struggles with queries in natural language.
8. Rely on Vendor: The data science expertise required to train new ML model behavior means relying on the vendor for any updates / change in behavior.
9. "We've Built Our Own Model": ML uses "small language models" that are typically open-source which the vendor owns and trains.

Generative AI (GenAI)

1. Auto Extraction and Understanding: GenAI understands unstructured text well and can automatically tag metadata and extract information in a document.

2. Pre-Trained: It may be helpful to provide it a knowledge base to reference for certain tasks but does not require heavy training.
3. Works O.O.T.B. (Out of the Box) for Min. Viable Product (MVP): Because GenAI comes pre-trained, it can typically perform meaningful tasks on Day 1 or only take days-not-months of fine-tuning to provide value for you.
4. Surgically Redlines Based on Rules: Because GenAI can understand concepts, it can be given instruction in the form of natural language rules covering preferred positions, fallbacks, and beyond (ex: Ensure all positions are at least mutual).
5. Short Lead Time to Custom Demos: Because GenAI comes pre-trained, it can typically perform many tasks with your docs in a custom demonstration live or with minimal fine-tuning (hours-not-weeks).
6. Rationale: GenAI understands concepts and can provide a rationale for / explain its output.
7. Query in Natural Language: GenAI interprets context rather than just finds keywords, so you can query it / your documents in natural language.
8. Self-Serve to Change Model's Behavior: Because model behavior is governed by natural language rules and prompts, behavior changes can be easily made by the client in most cases by adjusting a rule or a prompt or adding to knowledge base.
9. "A Multi-model Approach is Best": Because "Large Language Models" (LLMs) are constantly being improved with heavy, constant investment from companies like Google, Microsoft, OpenAI, Anthropic, and others, a multi-model approach is recommended for GenAI to deliver the best performance and results. The economics are difficult-to-impossible of a legal technology provider building and maintaining their own LLM that consistently out-performs a multi-model approach leveraging best-in-class LLMs.

Summary

The comparison illustrates that ML requires more manual effort, training, and time, and may lack output explanations and self-assurance features. In contrast, GenAI is portrayed as more advanced and better at unstructured text with automatic extraction, rapid deployment, explainable outputs, and self-assurance capabilities, leveraging multi-model contexts.**Provided by Evan Kelsay and Quinton Brown from ContractPodAI*