

Legal-Grade AI: Understanding Luminance's LPT

What is Generative AI?

As the name suggests, generative AI is used to produce content. Applications of generative AI models like ChatGPT in a legal context may include drafting contracts and client letters, aiding legal research or acting as a virtual assistant.

The Risks of Generative AI

When it comes to applying generative AI to legal tasks, it is important to understand that this type of technology is a generalist, not a specialist. Generative AI solutions like ChatGPT have ingested vast amounts of data from across the entire internet, meaning the system has been exposed to all types of subject matter rather than trained specifically across verified legal content. Furthermore, as the goal of generative AI is to always provide an answer, even if that means plausible-sounding but incorrect output, ChatGPT cannot be considered accurate or 'legal-grade' AI.

It's important to be aware of the issues ChatGPT could pose when applied to certain tasks that demand specialist legal knowledge. Examples of so-called 'hallucinations' (plausible but fundamentally incorrect output) are becoming increasingly common, such as generative AI citing non-existent cases and precedents.

Another concern of impressive though potentially dangerous demonstrations based on ChatGPT is that these systems send confidential client documents to a third-party vendor, often in a different jurisdiction over which there is no control. Many times, such documents contain information which regulations stipulate must be protected, not exported or shared. Luminance avoids this issue by having its own LLM and is designed to never share confidential information.

Legal-Grade AI: How is Luminance Different?

Like ChatGPT, Luminance employs a Large Language Model (LLM). The key difference is that Luminance's language model has been purpose-built from its inception for legal-specific applications. Informed by 150+ million verified legal documents, Luminance's exposure to vast legal data flows, combined with its core proprietary AI and deep domain knowledge, means that it is the most advanced legal LLM today.

THE TIMES

**Lawyer apologises after
ChatGPT invents his case law**

The Washington Post

**ChatGPT 'hallucinates'.
Some researchers worry
it isn't fixable.**

BBC

**Lawyer who used
ChatGPT told court he was
"unaware that its content
could be false".**

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In contrast to more generalist GPT technologies, Luminance's Legal Pre-Trained Transformer (LPT) technology learns solely from legally verified documents and is able not only to produce content, but also to analyse and understand content, even that created or edited by third parties. This powerful combination of both generative and analytical AI ensures the utmost legal rigour.

Another key advantage of Luminance's legal-grade AI is that it is sophisticated enough to know when to hand work back to the lawyer. We see this in Luminance's Traffic Light Analysis during contract negotiation – the AI will highlight which words, clauses or paragraphs within a contract are acceptable (green), in need of review (amber) or non-compliant (red). Luminance's ability to say it isn't 100% sure whether a term is acceptable and suggest further review from the lawyer can only be achieved through a close understanding of the legal domain. This ensures an extra layer of safety that ChatGPT lacks and is essential in helping lawyers to achieve their goal of protecting their business from risk.

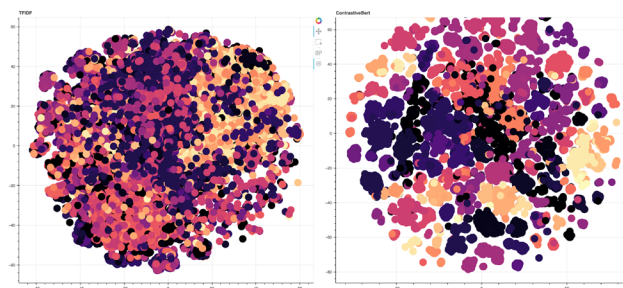
"We hear a lot about ChatGPT, but it is really the equivalent of a well-read and entertaining dinner guest when compared to Luminance's specialist legal Large Language Model, which behaves like someone who has studied law."



Rob Webb KC,
Former General Counsel of British Airways and Rolls-Royce

Luminance's Legal Pre-Trained Transformer (LPT): A Closer Look

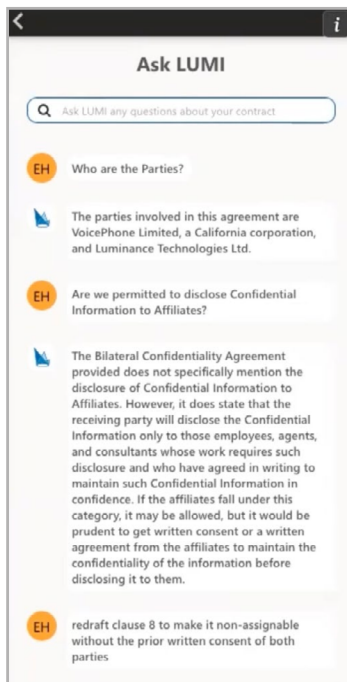
The AI models that underpin Luminance's AI use state-of-the-art techniques in Natural Language Processing, called Transformers. This is the same core technology that powers recent developments in image generation AI such as DALL-E and Stable Diffusion, and is also used by voice assistants such as Alexa and Siri for natural language recognition.



This comparison is between a standard (relatively simple) method for embedding sentences into a vector space on the left and one of our latest sentence transformer models (right), which can be seen to group sentences with similar meaning (points of the same colour are more clearly clustered together).

Transformers are superbly suited to the task of identifying anomalies and areas of non-compliance in contracts due to the unparalleled level of contextual understanding that they provide. Rather than examining text word-by-word, these models have a close understanding of what each word means in the context of a full sentence. In this way, Luminance is able to read and understand the written word much like the human brain, capable of distinguishing between different uses of the same word depending on the context in which it is written.

Legal-Grade AI in Action



AI-Powered 'Ask Lumi' Chatbot

Users can ask Luminance's AI questions about their contract and receive instant responses, all from within Microsoft Word. Users can even ask for clauses to be redrafted with alternative, acceptable wording. Not only does this expedite the process of understanding and negotiating contracts, it also helps drive business-wide efficiencies by allowing non-legal teams to ask questions and receive answers, saving the legal department from answering routine, repetitive queries.

"With Luminance's AI, we can see exactly where we need to focus our attention in negotiations."

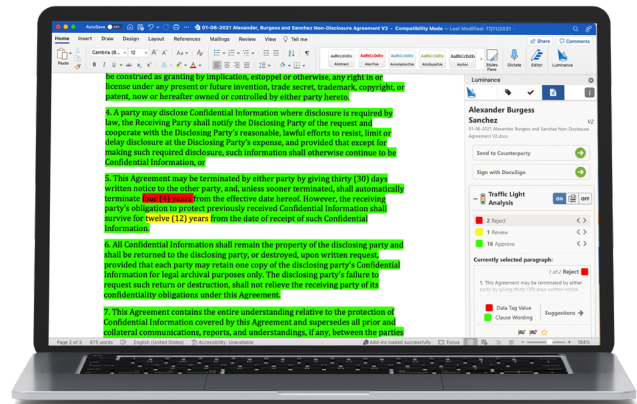


Matthew Forsyth,
VP and Deputy General Counsel

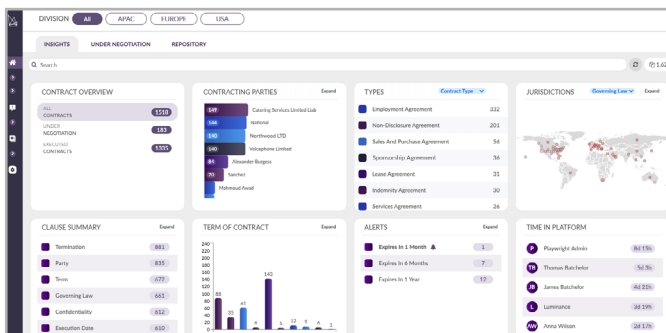


Traffic Light Analysis: Focus Attention and Resource

Taking a first pass review of an incoming contract, Luminance's Traffic Light Analysis visually highlights which clauses are acceptable and which need further review and negotiation, allowing lawyers to quickly focus on the areas of contracts that need their attention. With Luminance, suggested language and fallback positions are available to lawyers within Word. All changes made during the negotiation process are recorded in Luminance, regardless of whether the counterparty had 'Track Changes' enabled.



AI-Powered Contract Repository: Understand All Contracts and Respond Rapidly to Business Needs



With Luminance, lawyers can rapidly organise, understand and compare all contracts in their organisation, whether under negotiation or executed. Luminance's AI categorises documents across over 1,000 different legal concepts. AI-powered search (including conceptual search) and interactive widgets help lawyers respond to business questions with clarity and speed.