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How to ground AI models with high-quality business data

Verifiable, third-party information provides AI models with accurate data to avoid false or misleading inferences.

CIO

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Early releases of generative artificial intelligence (genAI) chatbots based on large language models (LLMs) were infamously susceptible to "hallucinations." They were prone to creating nonexistent inferences when lacking access to factual data. But when those LLMs are "skilled" or grounded in fact with high-quality, third-party data from sources such as Moody's, they become much more adept at assisting with business-critical decision-making.

Those genAI tools were trained primarily on content freely available on the internet, which is rife with incomplete, misinformed, biased, or false information. That caused them to generate incorrect or false inferences or, in other cases, simply create statements when facts were unavailable.

The hallucinations were reminiscent of the IT phenomenon GIGO, or "garbage in, garbage out." In other words, the outputs are only as good as the inputs. That can be addressed by ensuring that AI responses are skilled on unimpeachable and well-curated third-party data, a process known as grounding.

A system for refining LLMs and data

Many organizations struggle to ensure the timeliness, quality, consistency, and integrity of data. Information is often accumulated across diverse systems — which impedes interoperability and exacerbates the struggle to develop LLMs that are able to solve enterprise-specific business problems.

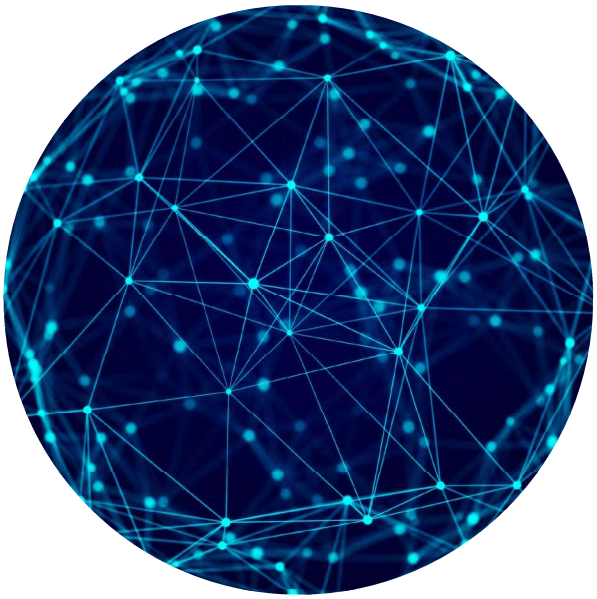
Grounding refines model responses by accessing data that accurately represents verifiable sources of information — rather than drawing incorrect but seemingly convincing inferences from vast data stores on the public web or in prebuilt models. Grounding provides LLMs with access to high-quality, verifiable third-party data sets. Then responses to prompts can be filtered, limited, or expanded to ensure that inferences are grounded in fact.

Moody's and Google Cloud are working together to explore how to enable customers to ground their genAI agents with specialized third-party data.

"Moody's is uniquely positioned to help ground genAI agents, given our extensive data sets and expertise with financial models," says Nick Reed, chief product officer at Moody's Analytics. "Our contributions can help customers refine their outputs so they can make the best use of Google's foundation models."

Enhancing insights through grounding

By combining Moody's unique analytical expertise with Vertex AI from Google Cloud, LLMs could help finance professionals do



faster, deeper analyses of lengthy financial reports and disclosures, among other materials. For example, customers would be able to interrogate, analyze, and draw decision-ready insights directly from financial disclosures.

Moody's data estate comprises information on millions of entities worldwide, which can be vital for establishing identity legitimacy and identifying the potential risks and threats of engaging with other entities. Its data is treated, appended, and standardized to make it richer, more powerful, and easier to integrate.

Models grounded with robust company data can assess a business entity, for example, and:

- **Deliver insights into the financial health of that entity, its industry segment, and its risk profile**
- **Identify instabilities within that entity's geographic region that might incur greater risk than an enterprise is willing to take on**

In addition, grounding can help models avoid faulty assumptions. For example, a business receiving a purchase order emailed from an organization referring to itself as MCO could infer that the entity is Moody's Corporation (ticker: MCO) or the airport in Orlando, Florida (code: MCO). If the model doesn't first ground its answers with established facts, it could trigger incorrect responses or automated processes.

Gain access to verifiable data

Although they are trained on vast information resources, LLMs are not knowledge databases. Their business value lies in being grounded or skilled with verifiable facts. Analyses are more likely to be relevant and valuable if initial assumptions are based on the correct entity, person, location, transaction, or event. So, it's important that LLM outputs are transparent and auditable, helping analytics teams and data users glean whether the model is consistent and trustworthy.

Moody's — whose data comprises detailed information about millions of entities worldwide — supports enterprises to not only ground their models with accurate information, but helps track data lineage, including data sources and how that data is verified.

The partnership between Moody's and Google Cloud could grant customers access to Moody's proprietary data sets through Google's BigQuery, an AI-ready data analytics platform. This integration could enable organizations to combine Moody's databases with native data assets and use them with LLMs in Vertex AI.

Grounding is a key building block for how advanced genAI technology can drive efficiencies for financial institutions and their employees — helping executives generate new and proprietary insights faster than ever.

Ground your LLMs with robust third-party data from Moody's to decode risk and unlock opportunity. **Learn more** here**.**