

Understanding the potential of LLMs and NLP in Insurance

Process automation has become a common sight within insurance. Firms have spent the past decade implementing technology as part of digitalisation strategies that aim to keep them in-line with market and customer demands. So, what makes natural language processing (NLP) and large language models (LLMs) different from previous technology stacks and what can they achieve that previously couldn't be done?



According to Walt Mayo – CEO at natural language solutions provider expert.ai - it's their ability to transform language into data. He stated that the effectiveness of LLMs and NLP rests on the fact that language is a form of data and within insurance language is ubiquitous. Whether it is engaging with customers in the front-end or how they respond to a claim in the back-end, insurance is driven by language. By using technology to understand and action language data, insurers can improve their performance and impact their current ratios in a meaningful way.

When recognising language as a form of data and overlaying this with the way insurance companies work, Mayo believes LLM/NLP represent an insurer's value proposition. The core of insurance is pricing risk appropriately. They want to be clear and transparent about what they do and don't cover and ensure it matches the customer's needs. This is all achieved in terms of language of data.

"Making sure the two align is critical and it is down to literally a handful of critically important words, and you have to get

that right. Until very recently that required people to read, understand, interpret and assess that language match. Now, people are very good at that, except they have some limitations." An obvious limitation is time, both training staff and manually completing the task. But another limitation is consistency – different situations may impact people's ability to accurately ensure customer needs are met.

LLM/NLP technology, like that offered by expert.ai, can provide insurers with a strong, consistent foundation to ensure there is a match on the front-end and back-end, which means matching the claim with what is covered.

As an example of expert.ai in action, if an individual is injured on a job site and the company has workers' compensation, massive amounts of data is needed to correctly assess the claim, such as employment history, medical notes, notes from legal counsel and more. Expert.ai can read and assess the language to identify the parts that require the insurance company to dive deeper into.

Insurance firms still struggle with claims fraud, but LLM/NLP can help. According to Mayo there is the structured and unstructured approach to combat this. The structured approach, which is the most common, is to look for patterns that indicate fraud, whereas the unstructured approach relies on an insurer monitoring language data. "It's a little bit more nuanced, because what you're looking at where there are discrepancies." In the example of workers' compensation, if the individual's claim doesn't match with information provided, it's an indication of fraud. The technology helps insurers spot those nuances in the language and direct the insurer on where they should investigate further.

Is more education needed?

The question is, are insurers aware of the potential and considerations with LLM and NLP? Fortunately, Mayo believes we are at a turning point. Thanks to the widespread popularity of ChatGPT, people understand the capabilities of the technology and the notion that you can use software to address language as a form of data.

Mayo stated that five years ago people mistook understanding language for simple optical character recognition. However, in recent years people have become more aware of AI and its capacity to handle tasks previously reserved for humans. "Right now, most of the insurance companies with whom we engage with in the marketplace are in a very active learning mode. I've been pretty encouraged with the thoughtfulness of the conversations."

There is also a growing recognition from the market about the real potential of the underlying capabilities of services like ChatGPT. While these chatbot tools are often accurate, they're not infallible, which creates problems for business use. One such issue is termed hallucination. Coined by AI scholar at the University of Southern California Kate Crawford, it refers to AI providing information that looks authoritative but is false and is either its own creation or a mashup of information from various sources. Other risks of these tools are data privacy, cost, latency, and availability. This has led to insurance firms to look beyond the generalised application and go deeper. Mayo said, "What's emerging, and this is really pretty extraordinary, as rapidly as ChatGPT came out it spawned a huge explosion of open-source models that provide much of the capability and address some of the challenges."



The company is focused on language technology, which brings deep expertise. There's a reason why we call ourselves expert.ai

Mayo pointed out a common misconception firms have - LLM and NLP are distinct from the software most insurance companies currently use. Until recently technology was purely deterministic. You knew exactly what it would do, and it would just repeat this reliably. There was little variability in the outcome. Whereas AI is probabilistic, which means they're working the same way humans do. They are using data to create results, which means there are a range of possible outcomes. Getting people to understand that is "a big mindset shift."

Another misconception is accurately pinpointing the baseline performance humans deliver and replicating that with AI. Mayo explained there is a misconception from people that the AI needs to be 99% accurate because that's what people achieve, regardless of whether that is true. The complexity of data that AI can understand is something humans couldn't really touch, so firms need to realistically assess what the human baseline is.

Adoption of the technology

Mayo's top tip for adoption is to identify the application of this technology that will drive real value. "It's less about diving right in and trying to build these enormously complex language models or building your own approach to artificial intelligence. It's much more around 'where can we apply it?' One of the things we're fond of saying is that the key benchmark in artificial intelligence is ROAI, which is a return on artificial intelligence." To assess this, firms should examine how the technology would save money, improve customer experience, bolster competitiveness or other key metrics.

While Mayo is thrilled by the market's excitement for LLM/NLP, he emphasised that we are still in a period of education. Notably around a one-size-fits-all approach. AI encompasses numerous capabilities, yet some firms opt for a single, pre-made solution for all their business needs. As an alternative, expert.ai boasts a hybrid AI approach. Rather than taking a single approach to solving a problem, it blends the best technology for a specific solution.

Expert.ai

Expert.ai deploys underwriting and claims solutions through its AI Platform, automating language intensive processes to increase capacity, cut costs and improve win rates. Global insurance carriers rely on the expert.ai Platform for Insurance for claims, risk engineering, policy review and submissions intake, transforming processes by removing manual document reviews, automating data extraction and prioritising which submissions of claims need an expedited review or to be assigned to a senior adjuster. Expert.ai's customisable language models are designed to be reusable, secure, and real-world-tested functionality specifically built for insurance companies.

As to why expert.ai is the best option for insurers looking to implement NLP and LLMs, Mayo said, "it starts with the fact that that's all we do." The company is focused on language technology, which brings deep expertise. "There's a reason why we call ourselves expert.ai," Mayo added. Its clients, which include Zurich Insurance Group, Generali, AXA and several top North American insurance companies, can expect to see a four-times increase in risk reports examined, a 95% automated policy review accuracy and 58-times reduction in claim document review time.

When first engaging with a client expert.ai will take them through a business value assessment, which will show the problem its technology will solve and the value it will generate. "With the ubiquity of language data in insurance companies, they don't have to spend a whole lot of time before they identify really important processes in their business that are language dependent. It might be on the claim side, underwriting, or risk engineering, ultimately, it depends on what is urgent for the insurer to fix."

If an insurer is looking to start working with LLMs and NLP, the first thing Mayo would say to you is, "congratulations, you're doing the right thing!" ●