

Advantage, Artificial Intelligence

At first glance, the on-line application for a small commercial policy — submitted by an establishment purporting to be a restaurant — raised no red flags. It was only when the insurer's underwriting department put their natural

Using the NLP tool to quickly comb through huge volumes of publicly available content across multiple digital channels, underwriters were alerted to inconsistencies they otherwise could easily have missed — key words in advertisements, social media posts and customer ratings that indicated the establishment was more a night club than a restaurant, presenting an entirely different set of exposures.

With an artificial intelligence (AI) tool such as NLP, says Dan Adamson, global head of cognitive computing at Exiger, a New York-based company that develops tech-based risk-management and regulatory compliance solutions, “all these information sources can be used as indicators that might make an underwriter want to take a deeper look at something before that application goes forward for processing.”

That's but one example of "a safe and high-impact" application of artificial intelligence by a property-casualty insurer, explains Adamson, a global authority on the investigative use of Big Data and cognitive computing in the insurance vertical.

AI also can help P&C insurers grow their business through segmentation and product development. Take the case of the insurer that, using AI learning, found a business case to justify offering a new, more customer-friendly product for a certain segment of its restaurant clientele — those that passed their safety inspections with flying colors — based on data patterns that correlated that subset of customers to certain positive indicators and attributes. “The ability to find new segments based on the AI system’s findings is very real and being used today,” Adamson says.

Shifting Attitudes

Examples like these only scratch the surface of AI's applicability in the general insurance (property-casualty) business. Insurers are using it to guide chatbots on their websites, allowing them to dialogue with consumers in real-time and handle a higher volume of queries, faster, in a more regulated way. They're using it to strengthen fraud detection and to make the claims analysis and claims settlement processes more efficient. They're using it in rating and reserving, underwriting, product development, customer service and more.

On the actuarial side of the general insurance industry, the possibilities for AI appear as boundless as the technology itself, says Anthony Cappelletti, FSA, FCAS, FCIA, general insurance staff fellow at the Society of Actuaries (SOA). "AI can make an actuary's job much more efficient. It can look at a lot more data than actuaries would otherwise be able to go through on their own, and it's good at picking up patterns that humans would have a hard time recognizing."

For the added capability and capacity it brings to the actuarial sciences, and for all it promises to bring to other facets of the insurance business, AI and related technologies such as machine learning and cognitive computing "can't be ignored," adds Cappelletti, a trained actuary himself. "The general insurance industry knows this and for the most part they realize that investing in AI is absolutely critical going forward."

From the front lines to the back office, the investments insurers are making in AI tools are already proving their bottom-line value, he says, improving profitability by helping uncover new growth opportunities on the product side, while also streamlining claims handling, enhancing fraud detection and fortifying customer service communications. As a result, there's been a "big shift" in the attitude toward AI among general insurance carriers, Adamson observes. Technology that not long ago was widely viewed by insurers as impractical, even taboo, is now being embraced and phased into mainstream business operations.

For property-casualty insurers and their actuaries, the value of AI lies in its ability to blend with and augment traditional systems and approaches. Going forward, Adamson predicts, the carriers who will be best positioned to leverage AI technologies will be those who take a blended approach with their investments, using a combination of AI tools that they develop themselves and others provided by, or co-developed with, their vendor partners. Rather than investing in sprawling, pricey enterprise-wide AI solutions, it may make more sense for insurers to explore some of the significantly less expensive open-source AI tools that vendors provide, he adds.

The Human Element

Perhaps overlooked amid all the buzz surrounding AI is the importance of the human element in maximizing these investments. Actuaries must have the training and hands-on experience to know which AI tools to use, when and how. They also need to understand how these tools fit within traditional actuarial frameworks for underwriting, ratemaking, etc.

"It's going to be incremental and it's going to take time, but AI is going to become prevalent in so many aspects of insurance, actuaries need to be well-versed in how to use this technology," asserts Cappelletti. "It's key for your actuaries to understand exactly what is coming out of the AI systems they're using."

Actuarial education organizations are helping actuaries rise to that challenge. For example, the Society of Actuaries has strengthened its curriculum with new, hands-on predictive analytics course work that incorporates modeling tools, including a [new predictive analytics certificate program](#).

Having an AI-savvy actuarial force also can help property casualty insurers answer the many regulatory questions that accompany broader adoption of AI across the general insurance landscape. "Explainability is a major issue" for insurers

as they attempt to justify AI-derived models and decisions to regulators, says Adamson. “The reality is, decisions have to be thoughtfully explained and documented.”

That can be a more complicated undertaking when AI tools and non-traditional data are involved, which from an outsider’s perspective can make it seem like decisions are coming from a black box. That puts the onus on insurers and their actuaries to make the tools, data and variables they’re using more transparent and understandable to regulators. “Regulators need to be comfortable that laws aren’t being violated and that there’s no unfair discrimination in the decisions insurers are making based on their AI learning,” Cappelletti explains. “That can be really challenging, especially in the areas of underwriting and rating.”

Regulatory concerns aside, the new avenues that AI opens for property-casualty insurers are too compelling to ignore, Adamson says. “There’s really no excuse for not moving ahead. Insurers need to tread carefully in how they use AI. But there will be a distinct advantage for carriers who not only have the data, but the tools to help them be faster to innovate.”