

A decorative graphic consisting of a grid of small dots. A larger, solid square grid of dots is positioned in the upper right quadrant. Below it, a series of horizontal rows of dots extends across the page, with varying lengths and positions, creating a sense of depth and structure.

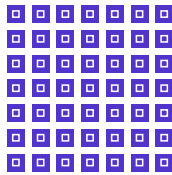
# The Past, Present, and Future of AI in Insurance

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# AI: From the Big Screen to the Boardroom



Artificial Intelligence. What comes first to mind when you hear the term? Is your first thought of HAL 9000, calmly and coldly telling Dave that he’s “afraid he can’t do that” lest the space odyssey be jeopardized? Maybe you think of young Haley Joel Osment playing a robot child who can love, searching for his place in the world – not fully human, and yet, not fully machine. Or perhaps your touchpoint is a little more recent and your mind goes to Ex Machina and its psychological thriller of a Turing Test. This is certainly not an exhaustive list of how AI has been portrayed on the big and small screen and in countless novels and short stories, but it does provide some interesting context.

The pervasiveness of examples of AI in popular culture clearly illustrates that we humans are fascinated with the idea of artificial intelligence and its various transformative implications. Just imagine a world of computers with consciousness, robots with feelings and everything in between. And while Hollywood’s perspective on AI typically leans toward the fantastic, it represents an interesting parallel to the business world. From the boardroom to the shop floor, there is a rapidly growing interest in AI’s potential to transform the very way we do business. The insurance industry is no different, and in many ways is an ideal candidate for transformation driven by artificial intelligence.

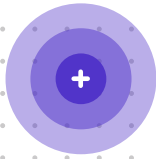


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# Augmenting - Not Replacing - Human Experience



At its core, AI is about replicating, amplifying and improving upon the human decision-making process using machines. True AI can be applied effectively to both mundane, repetitive tasks, and, increasingly, to roles that demand a greater ability to synthesize data and make decisions autonomously. That's one of the key reasons that AI is incredibly applicable to the requirements of the insurance industry. Take the claims process, for example. The typical insurance company employs hundreds, if not thousands, of individuals as claims handlers. And on the surface, their daily job appears fairly simple - to receive claims that have been filed by policyholders, closely review those claims, flag any that appear suspicious for further investigation, and/or recommend payment for those that are clearly meritorious.

But it's really not that straightforward. Each step in the claims adjudication process requires that a decision—or a series of decisions—be made about the claim that can only be accomplished by asking the right questions intelligently, at the right moment in the process, collecting all the pertinent information and then applying that knowledge to the claim at hand. For example, does the insured's policy cover the reported loss? Does the loss meet the parameters described by the policy? Is the full loss covered by the policy, or is the loss only partially covered? Is the loss even the responsibility of the insurance company or is there a subrogation opportunity? Is there additional information required from the policyholder to continue processing the claim? Do any of the circumstances surrounding the claim arouse suspicions, and if so, why? If the claim is suspicious, are the actions of the policy holder likely malicious or based in a possible misunderstanding of their policy? And these are only some of the questions that drive the claims process.

Depending on the situation and the type of insurance (for example, the information required to successfully adjudicate an auto claim is significantly different than that of a medical claim), there are potentially dozens of decisions being made for every claim received by an insurance company. Multiply that by the hundreds or thousands of claims handlers working for insurance companies around the globe and the intellectual capital invested in the process is simply mind boggling.

Now imagine what could happen if many of those decisions could be supported and accelerated by machines. Straightforward, valid claims are processed accurately and efficiently with little to no human interaction. Potentially non-meritorious claims are identified with greater frequency and accuracy. Human claims handlers are thus freed to devote their time, energy and expertise to more complex claims. The claims process becomes more streamlined, and policyholder satisfaction increases. And much of this is possible today by appropriately applying AI to the claims process.

# From the Mundane to the Magical



But what does that really look like? How can an insurance company “appropriately apply” artificial intelligence to a process that’s currently dominated by human beings? We’ve already identified that AI is fundamentally about supporting a decision-making process. In this context, it’s crucial to understand that AI is a tool, not a “solution” in and of itself. It’s a piece of the puzzle that must be applied to specific business requirements, such as fraud detection or claims automation, usually in the form of a software deployment. It’s the underlying AI that takes copious amounts of data, makes sense of it all and allows the software to present something useful to the claims handler or even handle the claim without human intervention to the delight of the policyholder.

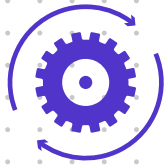
To do this, the AI must be able to understand myriad data sources. Can it read the claimant’s policy to know what’s covered and what isn’t? Does it know the difference between a photo of a windshield and a headlight? Can it compare the date of a claim against known weather patterns in the area to know whether a major storm passed through the policyholder’s neighborhood? Similarly, can it determine if a photo was taken days, weeks or even months before the date of claim, or if the photo of damage in question comes from a random source on the internet?



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# A Machine's Got to Know Its Limitations

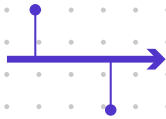


Even if the answer is “yes” to all these questions, can the AI make the connections necessary between data points to render solid business decisions? As important, is it smart enough to know when to say, “I don’t know,” and get a human claims handler involved at the right time? If we are going to give machines the power to make decisions that impact not only the business, but also the customers’ perception of the business, we must insist that the AI produce consistently reliable results and defer to human expertise when appropriate.

When thinking about the decisions generated by machines, and whether or not we can be confident in their quality, a crucial thing to keep in mind is that all artificial intelligence is not created equal. AI is based on algorithms – defined as a process or set of rules to be followed in calculations or other problem-solving operations. As such, it naturally follows that an AI is only as good as its underlying algorithms. Unfortunately, all too often we see algorithms being built to solve for a single, monolithic problem. This approach will typically yield suboptimal results. At the same time, it contributes to the perception that AI is a “black box” solution. A better course of action is to examine the various components that go into solving the problem and build algorithms to address these “deconstructed” parts. Like putting together a jigsaw puzzle, this approach helps ensure that the individual pieces connect in the right way to help the bigger picture emerge.

Yet, simply deconstructing challenges and algorithms into component parts is not enough. There needs to be a clear understanding of what kinds of outcomes will most benefit the business. For example, if the business problem the insurer is trying to solve is how to better detect the potential for fraud in the claims process, an algorithm designed to make sense of data that describes or identifies a behavior is crucial. For other aspects of the insurance industry – say, underwriting – identifying an individual’s behavior may be less important than understanding if the customer lives in an area with a preponderance of extreme weather. And this flexibility is a big part of what makes AI fundamental to the transformation in the insurance industry. It’s not only about fraud detection or claims automation; AI can be applied to benefit many different parts of the insurance business. Once you understand the opportunity you want to address, the odds are there is data available and algorithms you can build to take advantage of the situation.

# Fraud and Claims Are Only the Beginning



While the connection between AI and fraud detection is moderately well-understood in the insurance industry, that's only the starting point. The use of AI to support claims automation is a logical next step. This is the idea that a policyholder can initiate a claim, provide relevant information, have that information be quickly verified and have the claim closed and paid without human interaction from the insurance company. It's an exciting concept and driven by AI at every stage in the process. At first notice of loss (FNOL) it's AI that determines if the customer is an actual policyholder and whether the policy covers the loss. It asks the question and determines if the policyholder supplied all the necessary supporting information. Is the claim suspicious and/or is there evidence of fraud? Are there complexities related to the claim that indicate a human claims handler needs to get involved? These are all the things that AI is well-suited for as carriers actively work to transform the policyholder experience.

Fraud detection and claims automation are just two of the areas naturally suited for AI. There are a variety of ways AI can be used to help carriers manage the overall policy lifecycle – from underwriting and point of sale, through the claims process and at policy renewal time. Taking an AI-driven approach to policy lifecycle management allows insurers to truly know their customers and make better decisions about current claims and even the policy going forward.

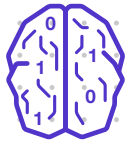
Can a current claim be denied – even if legitimate – because the insured materially misrepresented critical information at the time of application? Should the insurer not renew the policy? Or is it more advantageous to renew the policy under a new premium rate? Conversely, is the policyholder an incredibly valuable customer who may be the ideal candidate for new products and services, premium considerations or simply an acknowledgement that they're a VIP? These decisions can best be made only when all the information is available, and the connections and correlations between data points are explored to the fullest. That's the fundamental power of AI



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# The Future of Insurance is Powered by AI



It's an interesting time for AI and the insurance industry. Once widely misunderstood and derided as a buzzword, AI is quickly gaining traction across the industry. We're fast approaching that inflection point where carriers are starting to understand how AI can impact various aspects of their business and want to do something about it. Insurers are actively evaluating where the greatest impact will be and putting strategies into action to drive business value.

At the same time, we must understand that applying AI to the various challenges facing the insurance industry is still a fairly new idea. There's tremendous interest in digital transformation and modernization. Carriers want to shake off the idea that they're too traditional, too set in their ways or too slow, to make meaningful changes in the way they do business. That means they're open to new ideas and new ways of thinking. The most ambitious insurance companies are creating whole new business units headed by a Chief Innovation Officer or a Head of Digital Transformation. These titles were nearly unheard of even five years ago. And while these titles are not ubiquitous, they are on their way to becoming as commonplace as Vice President of Claims or Head of SIU. AI is becoming less of an experiment and more of a strategic imperative to creating new business opportunities.

We're at the very beginning of AI's impact on the insurance industry. As more and more success comes from the initial forays into using AI to create new opportunities, greater adoption is the natural outcome. Insurers will have a better understanding of which business processes lend themselves to AI and which may be better suited to different approaches, allowing them to focus their energies on those AI projects that will deliver the greatest benefit to the business and its customers, ultimately transforming the industry.



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Eric Sibony is Co-Founder and Chief Science Officer of Shift Technology, a provider of AI-native fraud detection and claims automation solutions for the global insurance industry. Since the establishment of the company, Eric has supervised the design of the solution and its evolution, as well as the R&D on the algorithms that it uses. He holds a PhD in machine learning.

## About Shift

Shift Technology delivers the only AI-native decision automation and optimization solutions built specifically for the global insurance industry. Addressing several critical processes across the insurance policy lifecycle, the Shift Insurance Suite helps insurers achieve faster, more accurate claims and policy resolutions. Shift has analyzed billions of insurance transactions to date and was presented Frost & Sullivan's 2020 Global Claims Solutions for Insurance Market Leadership Award. For more information, please visit [www.shift-technology.com](http://www.shift-technology.com).