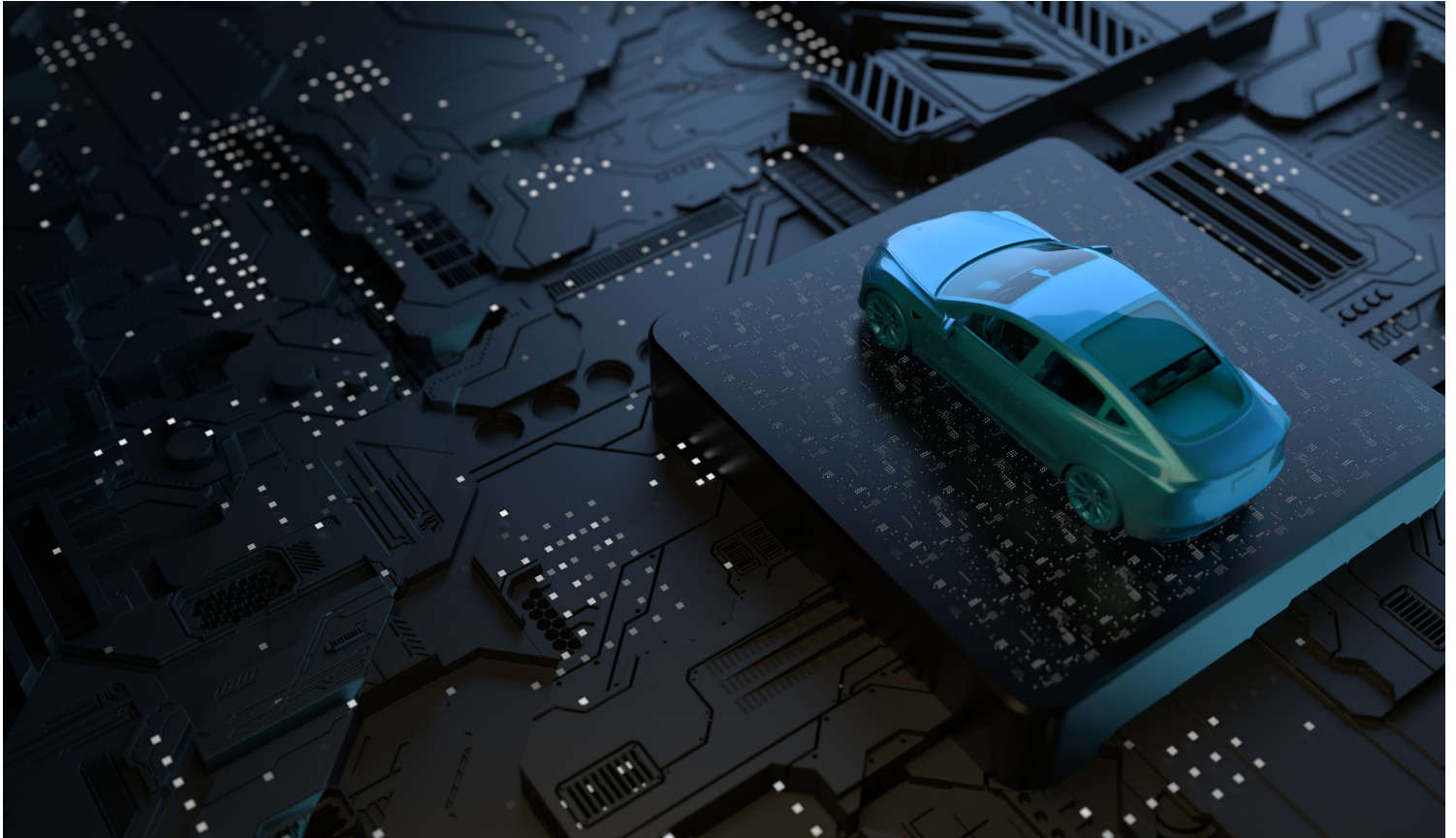# Artificial Intelligence and Machine Learning in Claims Processing

Empowering the insurance industry to become an AI-driven initiative powered by advanced machine learning

by Akansha Jain, Prachi Dwivedi, and Sneha Parihar

An Introduction to Artificial Intelligence in the Insurance Industry

There is a famous saying in the insurance world, "**There are no bad risks, only bad pricing.**"

To make improvements in this area we need to look to technologies such as Artificial Intelligence (AI) and Machine Learning (ML).

AI and ML are strategic necessities for reinventing business for the new digital era. This is the time to push for the adoption of AI and advanced machine learning.

Integrating AI with insurance offers substantial benefits for the entire industry. Not only can it eliminate much of the tedious paperwork but it also helps us learn more about the latest marketing trends with attracting more customers. AI answers the open-ended questions and provides resources for better fulfilling customer needs and demands.

Innovation through new technology is a key driver of change in the insurance sector. This has led to immeasurable efficiency gains. Various other technologies that can be utilized to support insurers with claims processing are also gaining in popularity. We will explore examples in this guide.

Telematics

Telematics collects large amounts of data, which helps with processing of claims by highlighting appropriate actions to take. It also lowers operational costs, reduces instances of fraud, and, most importantly, provides a better customer experience.

How Telematics Helps Insurance Companies

- Improved risk assessment: Insurance telematics monitors driver behavior and automobile safety. With the introduction of crash detection and instant first notice of loss, telematics has helped streamline the claims process.

- Enhanced customer experience: Telematics gives policyholders more control over rates, coverages and claim Information. Pay as you drive/Pay how you drive (PAYD and PHYD) brought about significant changes in the insurance industry. Discounts are offered to customers based on mileage and driving behavior.

- Easier calculation of premium cost: Telematics data can provide more accurate information of risk profiles, resulting in more precise policy premiums.
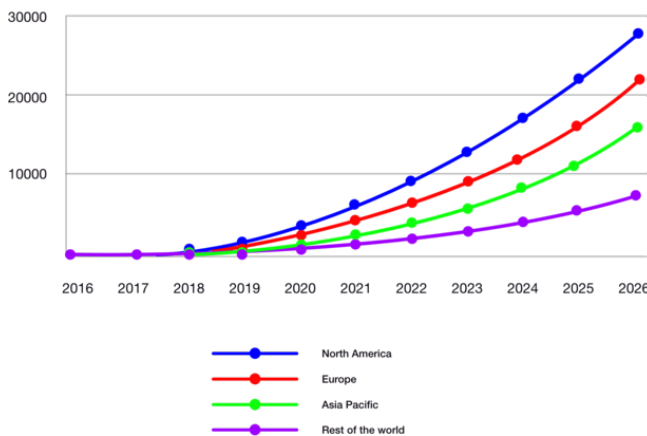
Chatbots

Chatbots are the latest technology being utilized by insurers to reduce time spent dealing directly with customers. AI allows chatbots to 'learn' through their experiences how to best support customers through automated communication. These chatbots help insurers embrace a more digital approach, using a natural-feel language interface alongside meaningful analysis to produce more customized interactions.

How Chatbots Helped Revolutionize the Claims Process

- Automated claims processing using conversational AI Chatbots has eliminated many   manual processes. They offer prompt responses and 24/7, 365 support.

- Faster claim payouts increase customer satisfaction levels.

- An AI-powered automated claim support system reduces human errors and eliminates fraudulent claims by identifying data patterns across different claim reports.

- Chatbots free up agents to focus on specific cases as needed. This increases the overall revenue of the company.
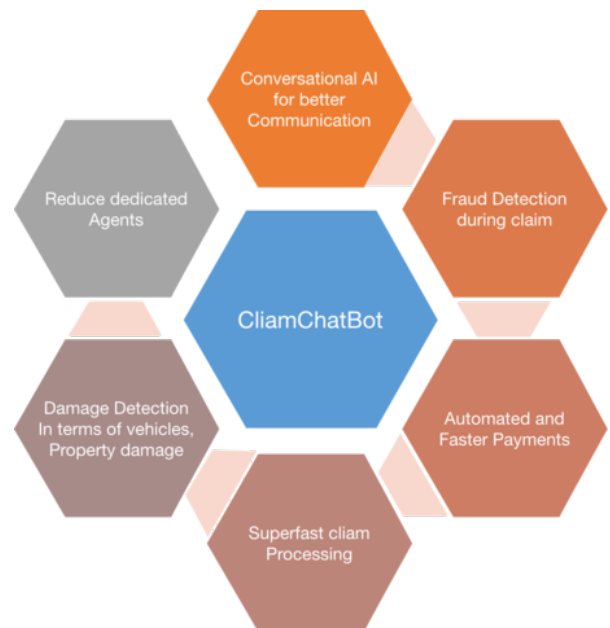
Global AI market, by geography
2017-2024 (in US$ M)

This technology solution has helped insurers realize savings by reducing the number of cases requiring in-person inspection.

Claims filed digitally through chatbots have been particularly beneficial during the COVID-19 pandemic.

The market for AI and machine learning is rapidly growing around the world.

This graph shows the anticipated acceleration of AI-driven technology over the next few years.

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Machine Learning

Machine learning is a type of AI that allows systems to learn and adapt through data analysis, rather than relying on programming. For instance, when a predictive model is fed the appropriate data, you can get an accurate output or prediction based on that data.

How Machine Learning is Transforming Insurance

We can apply this concept in the insurance world. Machine learning aids insurers or underwriters in classifying risks, for example, enabling them to calculate more accurate predictive models to reduce loss ratios.

Another serious issue with claims processing is fraud, which costs the insurance industry over $35 billion a year. Companies with good fraud detection technology can both improve profits and reduce losses.

This is where machine learning comes into play. Industry leaders are using such technologies to identify fraudulent claims and those requiring further investigation by the technical department. Paris-based startup Shift Technology has developed a powerful solution to spot potential instances of fraud in submitted claims, for example. It also guides further steps to investigate the claim.

Many companies have improved their customer experience by making the claims settlement process automated.

Machine Learning Pros And Cons

Pros

1. Helping insurers to identify the Claim Reserves
2. False Claim Detection
3. Better Customer Acquisition

Cons

1. Accurate Data from the right source
2. Data Security
3. No Clarity on ROI

A further advantage of machine learning is that it assists in supporting insurers with claim reserves. At present, claim reserves adjustments are done manually. This can be a challenging process, given that it needs to happen in real-time. Machine learning helps insurers to identify claims costs so they will already be aware of the reserves required.

Machine learning also allows companies to provide customized products and better premium rates. It does this by 'learning' about any given user's behavior and history, and uses this information to develop models on the likelihood of different scenarios.

Challenges in Machine Learning Implementation for Insurers

This brings us to the challenges involved in implementing machine learning for insurance.

1. Gathering correct data. When training predictive models, data must be accurate to enable the system to provide the right output. It can be difficult to gather valid data from a genuine source.

2. Keeping data safe. Insurers need to add an extra layer of security to their database to protect the data from hackers. This is an added cost.

3. A lack of clarity on ROI. Stakeholders or funding companies will likely not want to finance operations when the financial benefits are unclear.

How Machine Learning is Transforming Insurance

Despite these potential barriers, a small number of companies have implemented these kinds of advanced technologies and are doing exceptionally well because of them. For example:

a. Tokio Marine has an AI-assisted claim document reader that can process handwritten claims using the optical character recognition service.

b. Indian insurance company Chola MS has come up with mobile technology that can be used for surveying claims. This technology utilizes the voice, camera, and data connectivity capabilities of the Samsung Galaxy Tablet to capture surveillance data and store it in a single database. This supports claim adjusters in processing the claim more quickly.

Advancements in artificial intelligence and machine learning technologies are bringing about drastic changes in the insurance world. Insurance companies should start preparing for the coming change. Organizations are likely to see better operational performance and customers can expect higher levels of satisfaction with these technologies in place.

About the Authors

Akansha Jain, Analyst, Business Solutions & Consulting Group
Akansha Jain is an Associate Business Analyst within GlobalLogic's Business Solutions & Consulting (BSC) group. She has five years of Business Analyst experience in the insurance industry. She has been working in IT system modernization, Claims and Policy Administration within the personal and commercial space.

Prachi Dwivedi, Associate Consultant, Business Solutions & Consulting Group
Prachi Dwivedi is Associate Consultant within Global Logic's Business Solutions & Consulting (BSC) group. She has more than seven years of business analyst experience in the insurance industry. She also has expertise in IT, Policy Administration, Claims, and Productions services within the workers compensation line of business. She has worked for one of the large insurers across the globe.

Sneha Parihar, Consultant, Business Solutions & Consulting Group
Sneha Parihar is a Consultant within GlobalLogic's Business Solutions & Consulting (BSC) group. She has almost Eleven years of business consulting experience in the insurance industry and Business Analysis. She also has expertise in IT systems in Policy lifecycle, Policy Administration, Claims, Underwriting, Rating for commercial Line of Business.

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