

# Artificial Intelligence in Smart Claim Processing

Chandra Kudumula

Senior Programmer Analyst/Software Architect

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**Abstract** - Over the past few years, artificial intelligence (AI) has become a disruptive phenomenon for various industries. There has been widespread adoption of AI across industries like healthcare, hospitality, automobile, real estate, construction, financial, and many others. The roots for the introduction of AI technologies into global financial and banking sectors had been laid early on. Nasdaq's early days of a securely connected network of trading desks for integrated customer data records have made the application of AI in insurance industries seem possible. AI helps with analyzing data, anticipating results, and decision-making within the insurance sector.

**Key Words:** Artificial Intelligence, Insurance Smart Claim processing.

## 1. INTRODUCTION

With increasing digitization and market competition, insurance industries cannot afford to neglect the applications of AI for delivering efficient and high-quality services. Insurance industries are still unable to fully utilize the applications of AI and automate their business processes, but they can reap many benefits.

In the current scenario, AI-based products in the insurance sector include insurance coverage for smart driverless cars. It also enhances important processes like claims analysis, asset management, risk calculation, and prevention. With the ever-increasing volumes of data in the insurance sector, companies can drive growth by integrating AI in the industry.

A major boon for the insurance industry has been claims optimization through artificial intelligence. As a result, more insurance companies are adopting machine learning to simplify and automate the processes to reduce fraudulent claims. The automated insurance claims can remove excess human intervention or manual errors. It can also capture damage, update the system, and communicate with the customers by itself.

## 2. HOW TRADITIONAL INSURANCE CLAIM PROCESSING WORKS

The basis of any given insurance company is formed by the highly complex system of claims processing. A claim is submitted by a policyholder whenever an insured asset incurs damage. This claim includes all the information

regarding the nature of the damage and the costs associated with it. The information is used by an insurance adjuster to review the claim and to decide whether it will be fulfilled. The amount of remittance to be paid is also decided on the basis of this information.

Once the claim is approved, the insurer compensates the policyholder either directly or someone else on behalf of the policyholder. Apart from ensuring that the claims fall under applicable policy, they are also vetted to ensure their genuineness. Insurance fraud is a widespread and serious crime. It poses a major threat to insurance industries and can incur a great cost for them. According to the FBI, 7,000 insurance companies in the USA receive over \$1 trillion in premiums every year, of which fraudulent claims cost insurers approximately \$40 billion.

Traditional claims processing has always been conducted by an insurance adjuster. The adjuster reviews many claims in a day and manually flags claims that have incomplete information or those that could be potentially fraudulent.

Earlier, this might not have been a problem, but today, with a large number of claims being submitted in a single day, manual work can be exhausting and error-prone. Besides, the content of the information included in a claim has also increased significantly, with things like telematics insurance and property sensors included in it.

The traditional claims processing techniques are limited in their reach and effect to detect fraud accurately. They employ heuristics to indicate fraud and make decisions based on fraud. They also set specific rules to determine the need for further investigation and examine scores and claims values to check the need for investigation.

## 3. ISSUES WITH TRADITIONAL INSURANCE CLAIM PROCESSING

Over the past years, detecting multiple frauds during the insurance claims management process has been very taxing for insurance companies. There are many typical challenges and unpredictable patterns that these companies have to deal with.

Quite often, individuals try to gain illicit favors from an insurance company by undertaking inventive, illegal activities under the name of insurance cover. These activities include ostensible accidents, exaggerated presentation of fake damages, false cause of accidents, and more.

The insurance industry has been grappling with fraudulent insurance claims settlements since the very beginning. Potential challenging situations include:

- Covering-up for a situation that wasn't eligible for insurance coverage. These situations include drunk driving or other illegal activities.
- Individuals also misrepresent the incident's context by falsely transferring blame in events where the insured party is to be blamed. They also fail to take agreed-upon safety measures required to prevent damage in the first place.
- People also exaggerate the impact of the incident by overestimating the amount of loss incurred. They either show additional and unrelated losses (fake losses) or attribute heightened costs to the losses.

Other challenges that pertain to fraudulent claims that the insurance industry has to grapple with include:

- Delayed payouts and tedious investigation processes have unpleasant impacts on customer retention.
- Unpredictable cost and complexity of the investigation
- Increasing pressures from the insurance industry compliance regulators
- Inconsiderable payouts lead to lower profits
- Other policyholders may also be indirectly encouraged to engage in delinquent behaviors.
- Process efficiency is compromised due to higher premium costs and deceit.

Thus, the limitations of traditional claims processing include:

- Requires plenty of manual efforts for determining fraud indicators. Also, thresholds need to be set and recalibrated periodically.
- Fraud detection process governed by a limited set of known parameters of heuristics, excluding other attributes that can potentially influence the process.
- Inadequate understanding of a given scenario due to the availability of limited parameters and context.
- Lacks the typical model of fraud detection.
- Lack of changing behavioral aspects and feedback from investigations.

#### **4. HOW AI SOLVES ISSUES IN TRADITIONAL INSURANCE CLAIM PROCESSING**

The use of machine learning and artificial intelligence (AI) contribute to solving issues in traditional insurance claim processing in the following manner:

- The technology has a smart, case-specific analytics model that improves accurate prediction.
- The technology also minimizes the impact of false alerts and, thus, the loss that results from them.
- AI and ML intelligently process various data sets to sense misleading or false claims.

AI in the insurance industry has rebuilt the claims management process by making it quicker, better, and less error-prone. Insurers can utilize the AI technology in the following ways to better manage claims:

- Facilitate a real-time Q&A service for a first notice when it comes to losing.
- Pre-assess claims while automating the damage evaluation process.
- Automate claims fraud detection through rich data analytics.
- Predict patterns of claim volume.
- Augment loss analysis.

AI-based chatbots can be used to improve the current status of claims processing that requires multiple employees. The touchless insurance claim process driven by artificial intelligence can eliminate excessive human intervention. It can also report the claim, capture damage, update the system, and communicate with the customer all by itself. This will allow clients to file claims in a hassle-free manner.

AI-powered chatbots used in claim processing can review the claim, verify policy details and pass it through the fraud detection algorithm before sending wire instructions to the bank to pay for claim settlement.

Thus, claims with standard documentation can be reviewed by AI bots and minimize human efforts. This will not only reduce the workforce required by insurance companies but also deliver instant customer assistance. Insurance claim processing automated by AI can also rescue the companies from fraudulent claims, human errors, and consequential inaccuracies in identifying data patterns in claim reports.

#### **5. SMART CLAIM PROCESSING WITH AI**

Even though the digitization of insurance requires the entire customer journey of insurance to be AI-enabled, automating claims management can generate significant value. AI automation of decisions traditionally made by claims handlers will be error-free as well as improve customer engagement.

Smart claims processing with AI can:

- **Predict claims characteristics** - Characteristics of claims that are yet unknown, such as the likelihood of fraud, total loss, or litigation, can be inferred by AI. Using the latest advances in AI and picture recognition, automotive insurance companies can estimate a vehicle's damage value in real-time at First Notice of Loss (FNOL).
- **Segment claims cases in real-time** - Using AI algorithms, claims can be segmented based on complexity by using factual and predicted claims characteristics. After being segmented, claims can be assigned to specific downstream handling processes.
- **Support claims handling** - AI can also support finding the optimal claims handling process for a specific claim.

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### BIOGRAPHIES



Chandra Kudumula is a Senior Programmer Analyst in digital insurance with more than twelve years of experience in IT. He successfully architected, designed, and developed various highly scalable and highly available enterprise applications in multiple domains such as Finance, Gaming, and Insurance services. He is a Senior member of IEEE.

### 6. CONCLUSIONS

While the insurance industry is still grappling with challenges to fully implement AI in its systems, insurers are optimistic about its potential in the industry. Many insurance companies have begun exploring the multiple applications of artificial intelligence to automate their processes. However, some are still reluctant and unwilling to transform their traditional systems.

In an age of digital uprising and technological advancements, traditionally driven insurance companies can only hope to succeed. AI-related technologies have been driving a paradigm shift in the industry.

When it comes to claims processing, applications of AI include damage analysis through image recognition, automated self-service guidance, and others. Smart technology is enabling companies to settle claims easily and detect fraud automatically. Smart automation of existing workflows also aims to reduce time and resources spent managing or monitoring claims, increasing process efficiency, and enhancing customer experience.

Rapid advances in AI technologies will lead to disruptive changes in the insurance industry. Companies adopting up-to-date tech will dominate the sector with innovative products, cognitive learning insights, streamlines processes, etc.

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