Worth a Thousand Words: Can Mobile Photography Change the Game for Insurance Underwriting and Loss Prevention?

by Matthew J. Zollner

Process automation is making its way through the insurance industry, delivering operational efficiencies in many areas. For underwriting and distributing personal and small business insurance, carriers are struggling to balance providing in-person inspections of customer risk exposures with delivering quotes and prices in minutes. Mobile technology, photos, and artificial intelligence are promising to close the gap, as they can deliver insights into risk while offering a more streamlined insurance process for both carriers and consumers.
The smartphone continues to fundamentally change the way people interact with the world. From social media and gaming to fitness and banking, mobile technology has provided consumers with access to vast information and insight while empowering their decision making and actions.

The insurance industry is no exception. Carriers have been building mobile apps that aim to improve their customers’ experience by offering easy quoting, access to policy documentation, and claims management. But which of these features can help insurance customers, they don’t always have the same impact on insurers’ core functions, such as assessing and pricing risk and adjusting claims.

Enter the smartphone camera. Moving Beyond the Selfie

In 2018, 77 percent of Americans had smartphones. And for all the technology and utility that have been used for and built into these devices, their photography capabilities stand apart for the constant stream of improvements to the camera. In fact, advertisements from leading smartphone makers in 2019 prominently feature photo capabilities, offering clear evidence of the value users place on taking pictures.

And I’m not talking about simple pictures. Image recognition is being used to automatically tag people and places and then place photos in albums and folders according to their content. Smart-editing tools further allow users to quickly and easily improve the lighting and clarity of their shots. And now smartphone manufacturers are using artificial intelligence (AI) and deep machine learning to integrate the camera with other applications, such as the iPhone X’s Face ID (facial recognition) and Animoji (human faces transposed onto emoji) features, to create interactive experiences for users.2 AI-powered cameras are also supporting augmented reality apps that integrate images and videos with real-life picture subjects.

Perhaps most interesting for insurance is the injection of AI into the photo-taking process itself. The software behind the camera is increasingly able to automatically adjust its settings in real-time according to what is in the frame.3 Users may not even realize these adjustments are being made. But regardless, the way they take photos will never be the same.

Impact on the Insurance Industry

For the past several years, the insurance industry has been automating processes. In the areas of underwriting and distributing personal and small business insurance, carriers often need to balance providing in-person inspections of customer risk exposure with delivering quotes and prices in minutes. But risk inspections provide significant value by identifying higher-than-average exposures, preexisting conditions, and unknown hazards.

By offering insurers increasing access to photos and tools for analyzing them, mobile photo apps may be able to help close the gap between risk inspections and underwriting decisions, thereby improving the customer experience. Consider that as the cost of risk inspections increases relative to premiums, easy access to high-quality mobile photos offers the benefit of risk control at a lower cost. Because most policyholders already have a smartphone in their pocket, they can likely take photos of specific risk conditions, such as valuable jewelry, sprinkler system specifications, and vehicles, and send them to their insurer via email or directly in a mobile app. Insured property such as vehicles or homes that often have some sort of preexisting damage or custom upgrades can be documented for use in the event of a claim.

Analysis

Access to more information is a step in the right direction for carriers wanting a better look at the risks they are underwriting. But the injection of AI into photo analysis has the potential to dramatically increase the efficiency and efficacy of photos for underwriting inspections. Technologies such as image recognition, optical character recognition (OCR), and digital measurement tools, in particular, may have a huge impact.

Let’s take a closer look at each.

Image recognition is one of the most-known capabilities of machine learning and AI. It works by manually training computer systems to identify increasingly detailed and specific shapes and features and is the foundation of common functions, such as facial recognition. In the insurance industry, image recognition can be used to identify preexisting home and vehicle damage to unique or high-end features that increase exposure. For example, hail damage to the hood of a car can be identified and highlighted during underwriting so a claims adjuster knows not to include it in a damage estimate or while valuing a total loss.

OCR is a specific type of image recognition that can understand and interpret human text and convert it into a standardized text file. This technology could significantly affect underwriters and risk engineers who must currently pore over documents such as sprinkler system specifications, financial records, equipment servicing reports, and scanned loss runs. A full OCR system is capable of not only reading the documents and converting them to standardized text documents but also feeding the results into an algorithm that provides analysis and recommendations. Many commercial new business applications still include unstructured PDF loss runs. OCR could be used to standardize the information so it could be more easily ingested into experience rating engines.

Finally, the ability to make accurate measurements based on photos is growing increasingly sophisticated. Insurers are already using drones that can take detailed measurements based on photos is growing increasingly sophisticated. Insurers are already using drones that can take detailed measurements based on photos. The ability to make accurate measurements based on photos is growing increasingly sophisticated.

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Lastly, AI works best in an environment of continuous improvement. This means regularly refining the algorithms to increase what can be identified and how well it’s documented so that photo quality, as well as resulting recommendations and workflow, improve on an ongoing basis. Building useful and powerful AI is an iterative process that requires a long-term view of value. One of the biggest challenges to building AI tools is the sheer quantity of information it takes to develop reliable offerings.

For example, it takes analysis of millions of photos to create an image-recognition capability. Usually, the bulk of the initial analysis is done manually, which is time-consuming and expensive. For this reason, carriers should start with targeted tools to solve specific problems and then iterate and improve on them to create more comprehensive tools. Carriers can also partner with companies to leverage their AI expertise while still being able to influence the resulting solution. Plus, partnership gives carriers faster access to new developments and innovations than if they tried to build solutions themselves.

Apple’s Measure app is now a standard feature of the iPhone and can take fast and accurate measurements, including length, width, area, and level. Sizing rooms and roofs and noting distances between buildings or hazards—to better determine the risk of fire spread, for example—are important parts of any property inspection. Gaining accurate measurements from photos speeds these processes and allows inspectors to avoid physically accessing roofs.

Putting the AI in Insurance

The insurance industry is starting to embrace AI, with several insurers integrating AI into key decision points in underwriting and claims. But for AI to transform the insurance industry, it must integrate into processes, as well as consumers’, underwriters’, and risk engineers’ experiences. Improving its impact throughout an organization will create a virtuous cycle of improvement.

The first step is for AI tools to be simple to implement and use—such as through an app that works in a web browser. Deep links and notifications can be sent via SMS text and email, bringing users directly to the specific action, with no need to log in. On the back end, inspection tools should integrate with existing workflows to avoid the need to go to multiple places to send, review, and act on inspections.

Next, AI tools should be built to triage and provide recommendations tailored to the needs of each carrier. While being able to identify conditions, such as preexisting damage, on more policies is a step in the right direction, without analysis, human users would still have to review every photo, document the damage found, and decide what action is necessary. Triaging tools that can identify and categorize specific damage and rank it according to severity will allow users to review only those files that most need a human touch and all others to pass through automated approval.

Mobile and AI are changing the world for consumers and businesses. The insurance industry has an opportunity to benefit from this revolution in mobile photos to easily capture and analyze risk, among other use cases. Underlying AI can free underwriters and inspectors to focus on the highest risk and highest-need accounts while helping insurers build better risk portfolios; more efficient processes; and an improved, modern policyholder experience.

A revolution has come to the camera. Will you capture it?

Many thanks to the Underwriting Interest Group for its contributions to this article.