CONFIGURE THE LEARNING PROCESS

AUTOMATED CAR DAMAGE DETECTION WITH AI FOR REMOTE ASSESSMENT AND IMPROVED CLAIM PROCESS:

Introduction:

The world of insurance is highly regulated, which often leads to delays in processing an insurance claim. Talking about claims for car damages, the process is further delayed as it includes human intervention for damage inspections. With AI, car damage detection and remote assessments are automated and the manual intervention is drastically reduced.

McKinsey already estimates that AI investments in the insurance industry can lead to a potential annual value of up to $1.1 trillion. Legacy systems and outdated technologies do not help insurance service providers automate and offer a better experience to their customers. However, modern-day technologies like Artificial Intelligence (AI) and Machine Learning (ML) are here to turn the tide.

This article looks at how you can leverage AI-based solutions such as automated car damage detection models to improve the assessment process and ensure faster disbursal of claims.

Vehicle insurance claim work:

When vehicles face accidents, owners need to inform the insurance company and police immediately. If the insurance providers identify that the claim is genuine, they reimburse the amount after due inspection.
Here's how the process works:

Informing the Insurance Provider

Lodging an FIR

Setting up Manual Inspection for Damage Detection

Getting the repairs done

Informing the Insurance Provider:

The vehicle owner needs to inform the insurance provider about the accident. The timeline for conveying the information is usually seven working days, post which the claim settlement period will likely get lapsed.

The insurance claim involves adding documents like registration certificate, driving license, insurance policy, and FIR copy.

Lodging an FIR:

Informing the police and filing an FIR is critical, whether it is an accident, theft, fire, or other damage. In case of minor dents or scratches, an FIR is not necessary. The police will ascertain the claims about the accident by visiting the spot. They will also record essential details related to the driver and vehicle.

Setting up Manual Inspection for Damage Detection:

When you file the insurance claim with your insurance provider, you can ask them to assign a surveyor for the inspection process. A representative from the insurance company will assess the damages and help you find garages for repairs. The insurance provider will tow the vehicle so that there are no further damages. You can expect the assessment process to get completed within a day or two after claim intimation.

Getting the Repairs Done:

Vehicle owners can get the car repaired and begin the insurance claim settlement process, which happens in two ways. If they opt for a cashless claim, there is no need to meet the repairing cost. The insurance company recommends the network garages in such cases. Vehicle owners only need to pay for deductibles.

Now, don't you think this process is a lot and time-consuming? What if some part of this process could be automated?
The highest time-consuming activity would be the manual inspection of the damaged vehicle.

Automate vehicle damage detection:

AI systems can analyse accident images to identify repair costs on a real-time basis. Insurance companies can experience better productivity by implementing AI in insurance claims processing and managing manual time for important tasks. AI accelerates the claims process and helps insurance companies experience better productivity. Automating routine processes like manual damage inspection of cars can overcome inconsistencies that can prove to be costly errors. Document capture technologies also help in handling large volumes of documents at once.

How AI Can Help in Automated Vehicle Damage Assessment?

Gramener helped a car insurance firm automate the car damage Assessment process to accelerate insurance claim settlements. This was a classic computer vision application that helped the client detect car damages remotely and comply with social distancing norms.
The company wanted to analysing damage from multiple angles and not depend on the physical visit by an agent to save costs and time. Our Android app classifies live images from a camera. We trained models, converted them to TensorFlow lite, and added them to the app.

Challenges to Build Automated Car Damage Detection Models:

Like with creating a model for any purpose, there are challenges related to creating automated car damage detection and assessment models. Let us take a look at them in detail.

Getting Appropriate Datasets:

You need to have sufficient data of images to train machine learning models. It is also better to have a varied set of photos to classify them. It might be a challenge as it is tough to find a public database with images of damaged vehicles.

Pre-Processing Images:

Pre-processing helps in speeding up the process and getting better results. It includes editing images to make them usable. When done correctly, pre-processing also helps in making dark and blurred photos suitable for use. You can have a better database of images to work with.

Building car Damage Assessment Model:

Creation and training of models take time because it takes time to detect vehicles and distinguish their exteriors appropriately. You may need more input data and improved algorithms to get better accuracy. So, the process likely extends for weeks and months.

Optimizing Costs and Performance:

The model needs to be reliable as insurance companies deal with hundreds and thousands of claims processing. Vehicle owners should also

get damage estimation instantly. At the same time, the costs need to be controlled because the processing of images itself can cost thousands of dollars. If there are delays, it will only end up costing more time and money.

Maintaining Privacy:

It is critical to maintaining the privacy of car owners during the processing of images. If photos contain license and number plates of vehicles, it is easy to identify the owners of those vehicles. It can be a violation of privacy and breach the GDPR standards.

Benefits of Automated Car Damage Detection:

Here are some advantages of the automated damage detection process.

Saves Time of Inspection:

Insurance companies do not have to send a surveyor to check the condition of the damaged vehicle. The AI-enabled system helps them assess the damage even remotely. When the vehicle owner sends the photos, they can run them through the system and specify the repair costs.

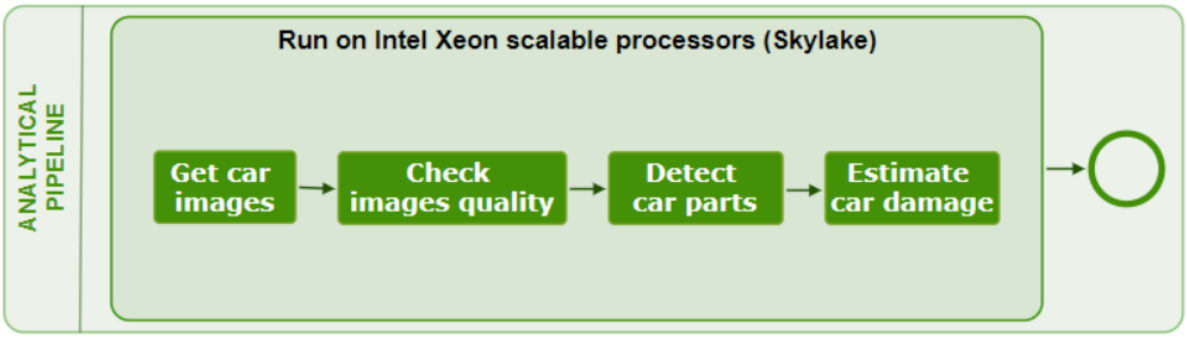
Saves Cost Claims on Processing:

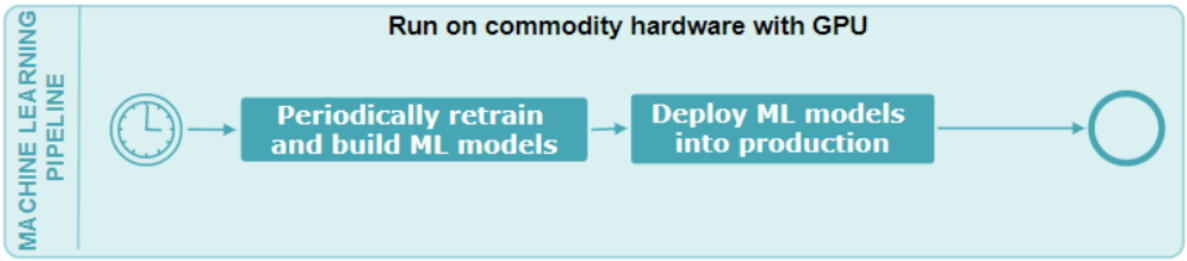
Automated claims processing helps in speeding up the process. AI-enabled tools and claim analytics help handle a large volume of requests. Besides reduced spending of resources on these tasks, insurance companies can experience better productivity. AI accelerates the claims process and helps insurance companies experience better productivity.

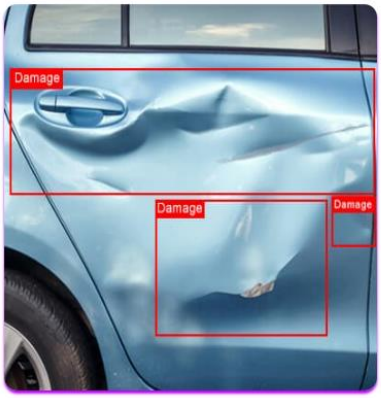
Furthermore, in situations like a pandemic where social distancing norms are necessary, surveyors can perform their duties remotely.

Conclusion:

Using AI in car insurance to assess damages and identify repair costs can significantly speed up the claims process. Insurance businesses can shorten the processing and reduce the steps for customers to get their payment. Besides improving the productivity of agents, insurance providers can improve customer satisfaction levels.

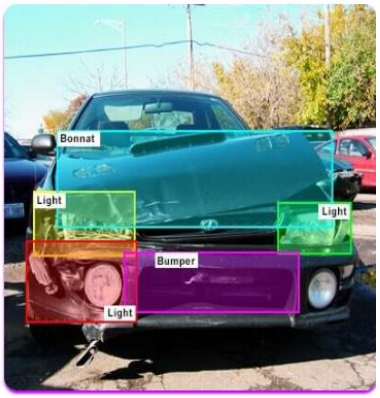




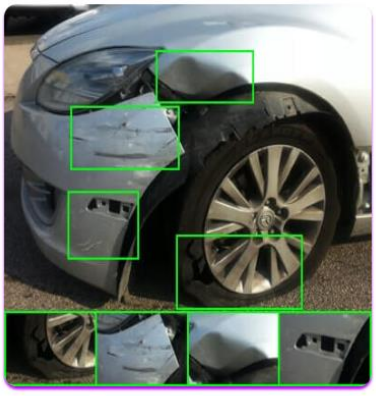


Annotation for Vehicle Dent Detection

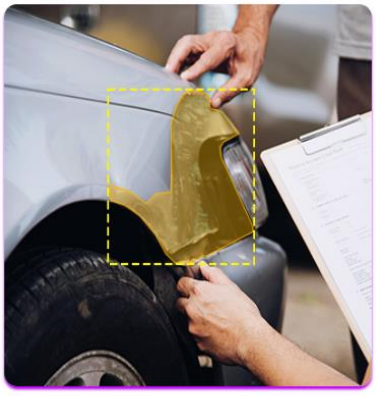
Annotation for Damage Level Detection



Annotation for Damaged Car Body Parts



Bounding Box for Car Damage Detection



Semantic Segmentation for Car Damage

Video Annotation for Damage Detection