PROBLEM STATEMENT

- The problem statement is vehicle damage detection task is one of the most vital activities in the vehicle insurance and vehicle rental industries.
- The systems of these kinds are used to identify the damage of a vehicle once an accident happens by the driver and also by the insurance company to detect and determine a suitable amount as per damage and vehicle rental companies to inform about the damage of a vehicle to the customer.
- The core technique here is object recognition. So once vehicle body damages, the driver does not have to wait until the insurance company calculates the appraisal, he/she himself can get a brief ideo as to how much will it cost to recover the damage. Once the image is uploaded, the system will process the image and identify the dent, scratches, shattered glasses, etc.
- Next, it is classified into the various severity classes by considering the features of the vehicle like the make, model and the year of manufacture Later, the severity generated as per damage image is mapped with the cost rules, which are constructed based on various properties of the vehicle such us the make, model and the year of manufacture.
- In the end, the customer gets notified with a level of damage severity and an average cost from which the damage can be recovered. So to solve this problem, we are applying the concept of image analysis, which is used to gain more accurate damage result of any exterior part of the car and provide suitable liability.

QUESTION	DESCRIPTION
What does the problem affect?	At present, in the car insurance Industry, a lot of money is wasted because of claims leakage. Claims leakage is simply defined as the difference amount between the actual claim payment made and the amount that should have been paid. Validation and visual inspection have been used to reduce such effects.
What are the boundaries of the problem?	There have been efforts by too few start-ups to reduce the claim processing time. For the classification of car damage types we made the use of Convolutional Neural Network (CNN) based methods. Specifically, we are considering common damage. types such as the glass shatter, door dent, bumper dent, tail lamp broken, head lamp broken, smash and scratch.
What is the issue?	The classification task was challenging because of factors such as barely visible damages and large inter-class similarity. They experimented with multiple deep learning based techniques

	such as training CNNs from random initialization, Convolution Auto encoder based pre-training followed by supervised fine tuning and transfer learning. They also observed that the transfer learning performed the best. They also concluded that only car specific features may not be effective for damage classification.
When does the issue occur?	Image based automatic vehicle damage detection- Srimal Jayewardene's (2013) [9] approach requires 3D computer aided design (CAD) modes of the considered vehicle to identify how it would look if it were undamaged. But they were not able to obtain such 3D models so they have used advanced applications like convolutional neural networks in computer vision.
Where is the issue oc	In convnets have proven their power in object recognition tasks for which image large scale visual recognition challenge (ILSVRC). Automatically detecting the damage of the vehicle using photographs clicked at the accident site is extremely functional as it can greatly decrease the rate

	of processing insurance claims, and it will also provide greater conveniences for customers who are making the best use of this functionality.
Why is it important that we fix the proble	By analyzing different techniques , we conclude different technologies used to provide solutions for insurance companies, such as Srimal Jayawardena uses 3D model of car and other latest papers uses CNN model and categories different types of damages which provide efficient machine learning concepts to predict cost evaluation for damage.