LITERATURE SURVEY

PAPER TITLE	AUTHOR - PUBLICATION	DRAWBACKS	PROPOSED METHODOLOGIES	OUTCOMES	FUTURE SCOPE
Research on Intelligent Vehicle Damage Assessment System Based on Computer Vision	Zhu Qianqian, Guo Weiming, Shen Ying, Zhao Zihao China Automotive Technology & Research Centre Co, Ltd, Automotive Data Centre, Tianjin, China	Less number of epochs with increasing validation loss. Image Net dataset used limiting the diversity in the possibilities of damage detection.	An intelligent damage determination system has four functional modules: 1. Accident Investigation 2. Image Damage 3. Result in Output 4. Anti-fraud of Automobile insurance	The owner can take photos with one click to achieve rapid loss determination, price estimation, and immediate compensation. It assists insurance companies to achieve rapid and accurate pricing in the process of fixing losses and claims.	The rapid compensation of accident vehicles to relieve traffic pressure, to avoid more serious personal and property losses caused by secondary accidents.
Image Processing Based Severity and Cost Prediction of Damages in the Vehicle Body: A Computational Intelligent Approach	W. A. Rukshala Harshani, Kaneeka Vidanage Department of Computing, Informatics Institute of Technology Affiliated with University of Westminster, Colombo, Sri Lanka	The major drawback of this proposed model is it may fail to detect major damages in the body of the vehicle.	This paper presents a novel approach to measuring the vehicle body damage severity and making a cost prediction using 2D images.	The proposed system predicts only minor damages which are scratches, scrapes, and dings.	To improve the accuracy of the cost and to be more particular to a single vehicle, the make, model, color, and year of manufacture will be taken into consideration.
Damage Assessment of a vehicle and Insurance Reclaim.	Vaibhav Agarwal, Utsav Khandelwal, Shivam Kumar, Raja Kumar, Shilpa M 2022 IJCRT | Volume 10, Issue 4 April 2022 | ISSN: 2320-2882	The major drawback of the proposed model is that it only identifies the physical visible damage and not the internal or interior damage.	A technique that compares before-and after-accident car images to automatically detect the damaged location. The R-CNN network identifies the severity of damage and a report is filed and sent to the user and the insurance firm.	The proportion of damaged parts is categorized and determined whether they need to be replaced or repaired. the user is aided in expediting the process of filing an insurance claim for his vehicle.	A reduction of model training time is a challenge. An advanced model to classify the damage of the exact components and the extent of the damage.

Car Damage Assessment Based on VGG Models	Phyu Mar Kyu and Kuntpong Woraratpanya - Institute of Electrical and Electronics Engineers (IEEE) Conference: JSCI8	Observed that training with a small dataset is insufficient to get the best accuracy based on the deep learning approach. Persistence of overfitting problem in the model performance.	Deep learning-based algorithms, VGG16 and VGG19, for car damage detection and assessment Pre-trained CNN models trained on ImageNet dataset YOLO object detection to train and detect damage region Transfer learning in pre-trained VGG model	94%, 71%, and 61% in damage detection, damage location, and damage severity in VGG16 Comparison of VGG16 and VGG19 model Precision, Recall, and F!-score	Training model with larger number dataset with diverse image The results of using transfer learning and regularization can work better than those of fine-tuning.
Convolutional Neural Networks for vehicle damage detection	R.E. van Ruitenbeek, S.Bhulai Machine Learning with Applications Volume 9, 15 September 2022, 100332	Challenge in damage inspection is the robustness against different light conditions.	A damage detection model is developed to locate vehicle damages and classify these into twelve categories. FSSD with Darknet-53 and YOLO v3 with Darknet-53 yield the best map, respectively.	A deep learning model that can accurately detect and classify vehicle damages. The model is evaluated in a specially designed light street, indicating that strong reflections complicate the detection performance. The model outperforms in the classes Bend and Cover Damage	Cross-validation between annotators and studies of the effect of different annotation granularities can be carried out.