INFORMATICS INSTITUTE OF TECHNOLOGY

INFORMATICS INSTITUTE OF TECHNOLOGY

In Collaboration with

UNIVERSITY OF WESTMINSTER

Identifying Vehicle Structural Damages using Image Processing

(Vehicle Structural Damage Identifier)

Final Project Report (FPR)
by
Mr. Ruhunukankanamge Fernando

Supervised by

Mrs Kavishka Athuraliya

Submitted in partial fulfilment of the requirements for the

BEng. (Hons) in Software Engineering

degree at the University of Westminster.

July 2022

Abstract

Vehicle repairs that haven't done to the company specifications can cause significant issues because new vehicles are designed. Both parties in and outside the vehicle have minimal damage in an accident. To achieve this chassis designs of the vehicles have been redesigned. Collision will first received by the structure of the vehicle which is also receives majority of the force. after vehicle structure which is the chassis of the vehicle, the collision force will impacts on the deck, which serves as a support for the front bonnet. The frame can be bent, causing the cross-tubes to warp, and the deck can be torn at some of the chassis-deck connectors. (Nguyen, 2019). Problem is most used car buyers doesn't know to inspect the vehicle.

This problem can be addressed by creating a mobile application that allows user to capture an image of the vehicle and gives prediction whether vehicle have structural damage. There are no exact researchers done in this domain but gap calculation researchers which uses (Adhikari, Moselhi and Bagchi) histogram method and otsus (Wang, Duan and Wang, 2017) method is useful.