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VDC PREDICTOR: VEHICLE DAMAGED PART IDENTIFICATION WITH DEEP NEURAL NETWORKS AND COST ESTIMATION.

A Dissertation by

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ABSTRACT

With the development of the world, machine learning has become a popular technology in almost every field. People have implemented various types of systems which were built based on machine learning to automate the manual processes. In present machine learning systems are far better than human brains and it has develop to artificial intelligence. Image processing which is a part of machine learning plays a major role in automated object detection. These image processing systems are used in many sectors. Such as health sector, insurance, agriculture, and surveillance etc. Out of these insurance sector has a very high demand for image processing because the ownership of best system with object detection software effect the reputation of insurance companies. Because of this high demand many projects were done to detect and calculate damage cost of a vehicle with the interaction of the insurance policies. But no successful systems were

built to calculate the actual cost of an exterior damage. There for the author has a goal to develop a new damage cost estimation by developing with new technologies available. This will help the individual vehicle owners to get an instant cost estimation of an exterior damage in their vehicle. Because of the high demand, many resources related to the domain are commercialized. The author of this research develops a dataset by merging small datasets to train the model and will publish it. Due to unavailability of a successful system to fulfil the mentioned gap and the unavailability of publicly available dataset, this will be a resourceful contribution to the object detection sector.

Keywords - Machine learning, Deep learning, Object Detection, vehicle damage, CNN, YOLO V5, Web crawling