Project Design Phase-I
Proposed Solution Template

Date	19 September 2022
Team ID	PNT2022TMID25973
Project Name	**Intelligent Vehicle Damage Assessment and Cost Estimator for Insurance Companies**
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	**Intelligent Vehicle Damage Assessment and Cost Estimator for Insurance Companies**
2.	Idea / Solution description	**The simplest way to automate such a system would be to create a Convolution Neural Network model that can take user-provided photos and determine the position and extent of the damage. The model must pass a series of tests that first confirm that the image is indeed of an automobile and then verify that it is actually damaged. Before the analysis starts, these are the gate checks. The damage check will start as soon as all gate checks have been verified. The model will forecast the damage's front, side, or back location as well as its minor, moderate, or severe severity.**
3.	Novelty / Uniqueness	**Convolution neural networks can be trained to reliably classify car damage using computer vision and deep learning approaches to speed up claims triage. Computer vision is still in its infancy and is not yet developed enough to handle images from phones with modular**

		cameras. Angle, lighting, and resolution are a few elements that can very quickly produce significant disruptions in image classification. Claims for car insurance settlements must be almost entirely accurate to prevent client fraud. These models would need to be trained on enormous datasets, which are very hard to come by.
4.	Social Impact / Customer Satisfaction	Convolution neural networks may be trained to effectively classify car damage using computer vision and deep learning techniques, which will help with claims triage.
5.	Business Model (Revenue Model)	The quickly developing auto sector strongly supports the similarly quick-growing auto insurance market. However, up until now, this industry has only been based on conventional methods of filing repair claims. In the unfortunate event of an accident, manual claims for vehicle damage must be made. The vehicles must be physically examined by an inspector in order to determine the extent of the damage and determine the cost. In such circumstances, there is also a chance that human mistake will result in incorrect settlements. Automating this procedure using machine learning and remote use will make it much more convenient for all parties involved in the damage, boosting productivity of the insurance provider and customer happiness.
6.	Scalability of the Solution	The data set used in this application had roughly 1500 photos for the first gate check, 400 images per class for training the classification models, and 75 to 100 images per class for validation. The precision of such a model will be poor. The model may also be taught to detect which components are damaged, as well as classifying the various degrees of damage of each, with a wider range of data sets comprising different automotive components.