iNeuron Internship

24th Nov – 1st Meeting

Topic – Road safety Project

↳ Vehicle dent detection

→ " damage "

→ " scratch "

Total classes → dent + damage + scratch

* Data collection was done from the web

↳ Total 400 images considered

Model

Initially TF1 model was used.

Then in place of TF2, the team used Detectron.

- Detectron gave good accuracy (85%)
- But TF1 model didn't have good accuracy

Accuracy for { classificatn —
Bounding Box —

2 metrics

(*) Mask RCN is being used.

(*) Detectn should be working on a

video rather than images.

* 80-20 split
* Data is mainly focused on cars.

Problem statement :- An insurance company might be using the model. A video of the car will be taken by the insurance ppl. Then the model will tell the amount of damage & then detect the estimated cost of the said damage.

* Can be later used in collision or accident detection.

* Darwin tool (automatic annotat^n.) was used for data

augmentation → crop + ...

↳ later used 900 more images.

⊙ Ensembling of Binary networks

might not work bcoz the classes might increase from 3 (scratch, damage, dent) to 10 or even 100 (tire rim issue and many more).

Other topics that might help

1) only 1 Neuron classes

Actions to perform

1) Find a new ways to solve the problem

problem

2) Find some base for each suggestion

3) Research Masked-RCNN

4) Research any available dataset which is pre-labelled.

5) Research the problem statement

6) If possible find related problem statements (might be useful for transfer learning)