Ahmedabad University

CSE 541 - Computer Vision

Weekly Report 19_3_2023

Team: - Pixel Pioneers

Group Member Details

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Tasks Performed in the week

We have so far used the You Only Look Once version 4 (YOLOv4) for object tracking. For the purpose of implementing YOLOv4 for object detection, we used the Darknet repository.
To date, we have trained Yolo on 108 tagged photos and tested it on 50 images.
In the future, we want to train the model on a total of 5000 annotated photos and test it on around 1000 images.

Outcomes of the Tasks Performed

- **Determined Classification Utpil Now**
    - dog
    - person
    - cat
    - tv
    - car
    - meatballs
    - marinara sauce
    - tomato soup
    - chicken noodle soup
    - french onion soup
    - chicken breast
    - ribs
    - pulled pork
    - hamburger
    - cavity
    - traffic light
    - two wheeler
    - Cycle

- **Completion of Traning**

```
 Tensor Cores are disabled until the first 3000 iterations are reached.
 (next mAP calculation at 1000 iterations)
 1000: 4.372295, 5.458348 avg loss, 0.001000 rate, 3.781962 seconds, 64000 images, 55.349825 hours left
Resizing to initial size: 416 x 416  try to allocate additional workspace_size = 150.99 MB
 CUDA allocate done!
```

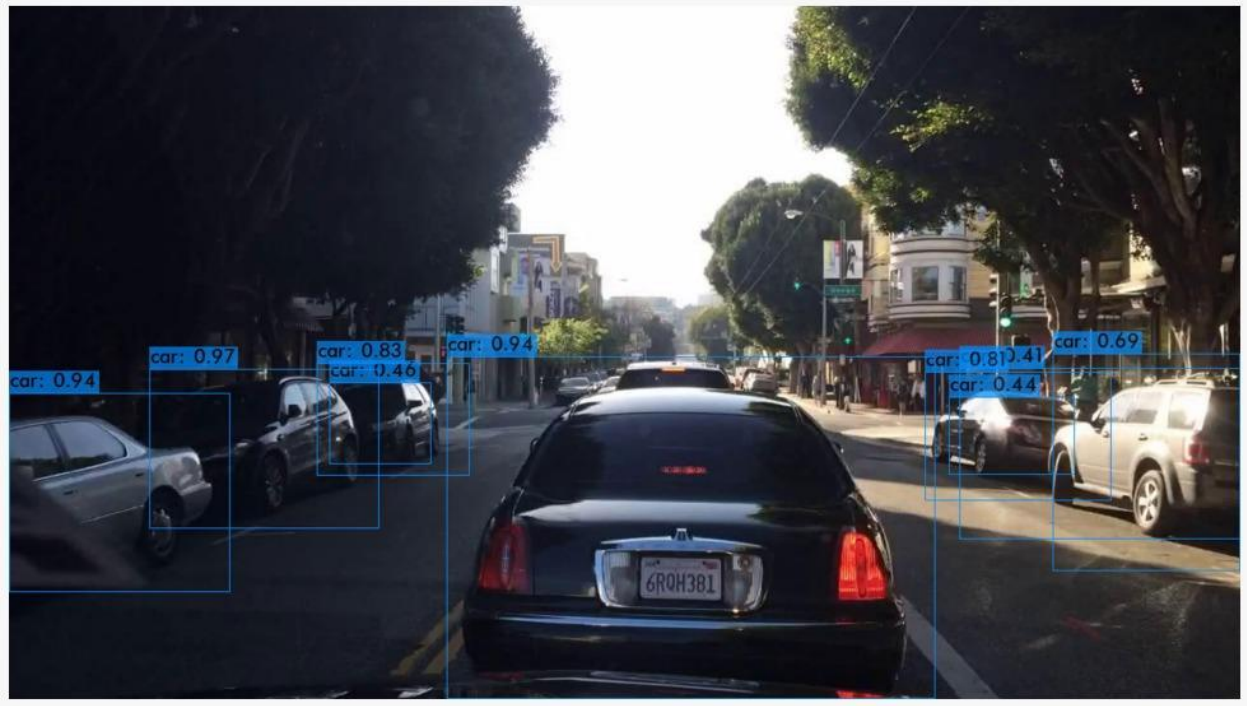

Fig - Training Results

Video Results :-
https://drive.google.com/file/d/1-3pLObyNeIbfobjZTIKRBffzo1FMBMjk/view?usp=sharing

Tasks to be performed in the upcoming week.

- Using neural networks and the Kalman Filter, which tracks objects based on velocity and location, Appearance Vectors and the Hungarian Algorithm will be integrated.

References

- **https://github.com/heartexlabs/labelImg**
- **https://youtu.be/ebAykr9YZ30**