Organization Name :	**Adani Group**
Problem Code :	**TU1**
Problem Statement :	**Visual Analytics Software**
Team Name :	**HackEliteZ**
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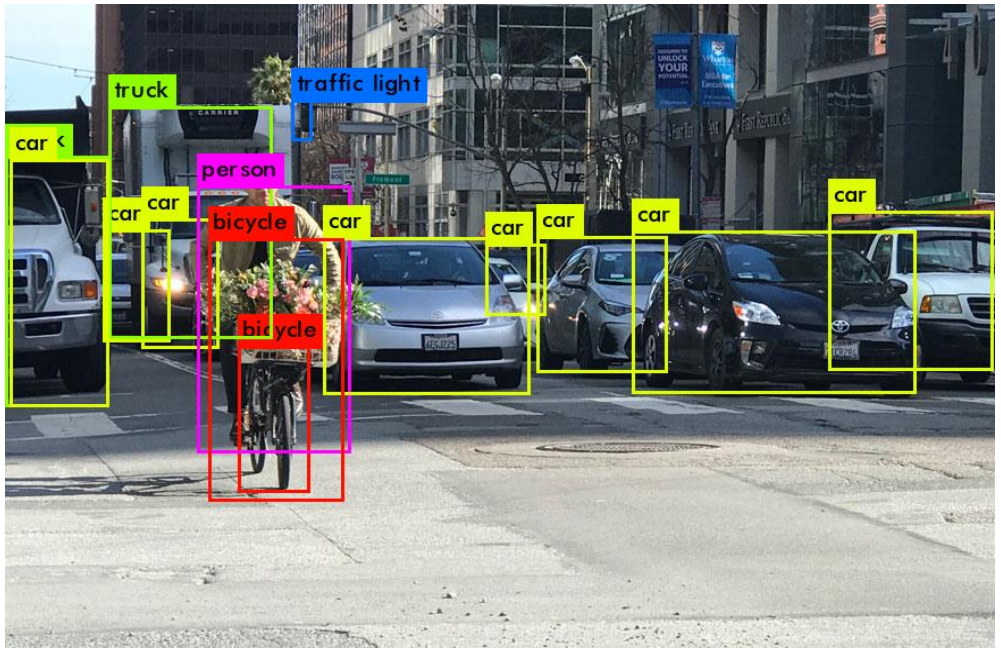
Idea/Solution

- The main focus for this problem is real time monitoring using continuous video.
- For solution purpose we will be using YOLO algorithm which is more efficient and accurate than other conventional CNN algorithms.
- YOLO algorithm has 91 Pre-trained objects with the flexibility of training the model on our objects.
- We will be training this model according to our requirements for example detection of Safety equipment on person, detection of cracks in pipe.

Working of YOLO algorithm

Test frame



Frame with Real time
Predicted outputs

Technology Stack

- Python
- Tensorflow with CUDA
- OpenCV
- OS : UBUNTU 16.04 LTS

Use Case

- Real- time detection of various Objects such as safety equipment, Cracks In pipe etc.
- Notification to the user about intended Objects.

Dependencies

- Specific Dataset is required to train the model accordingly
- For Smooth(30fps) running Nvidia Jetson TX1 processor is minimum requirement

Show Stoppers

- YOLO performs with 97% accuracy on real-time object detection.
- Unified architecture of YOLO model processes images in real-time at 45 fps.
- Our System will be highly portable and ubiquitous.