Traffic Rule Violation Detection

Computer Vision (Winter 2022)

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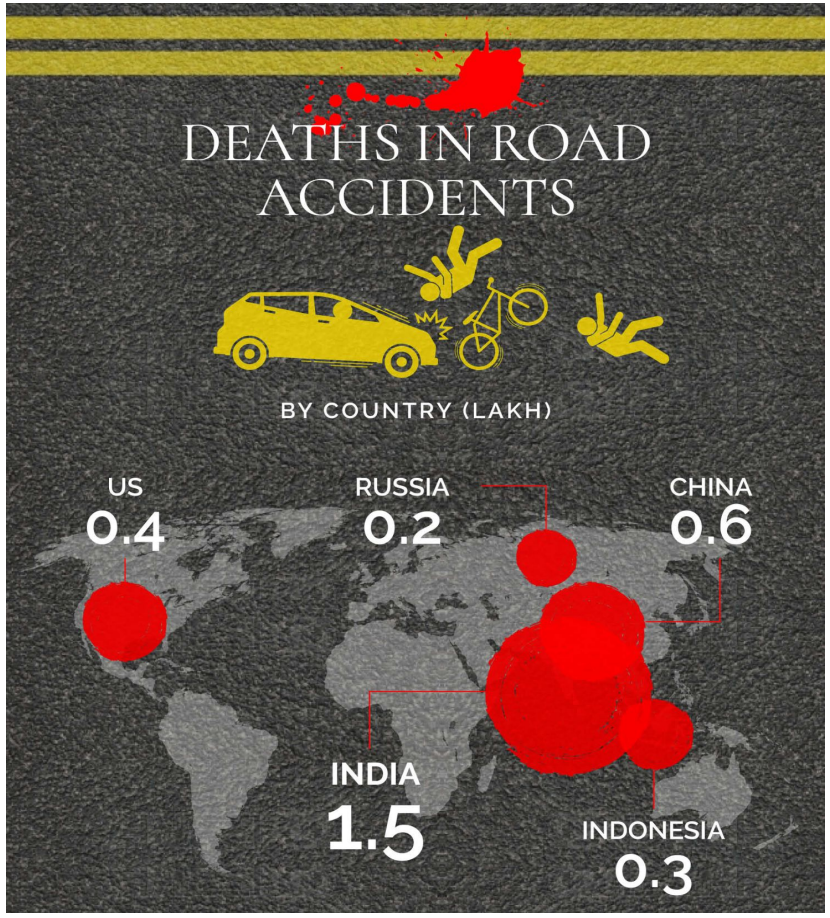
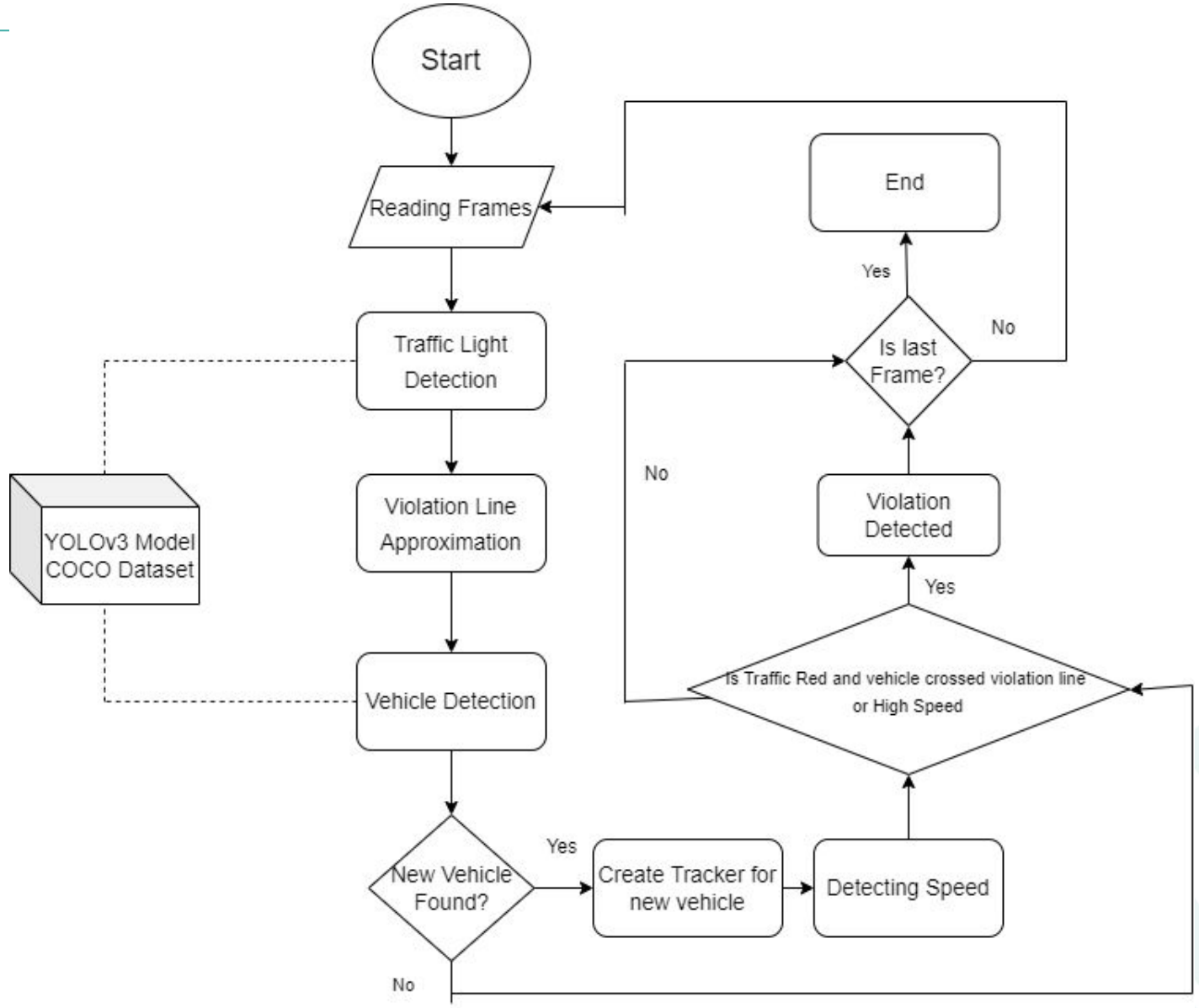
Problem Statement



Methodology

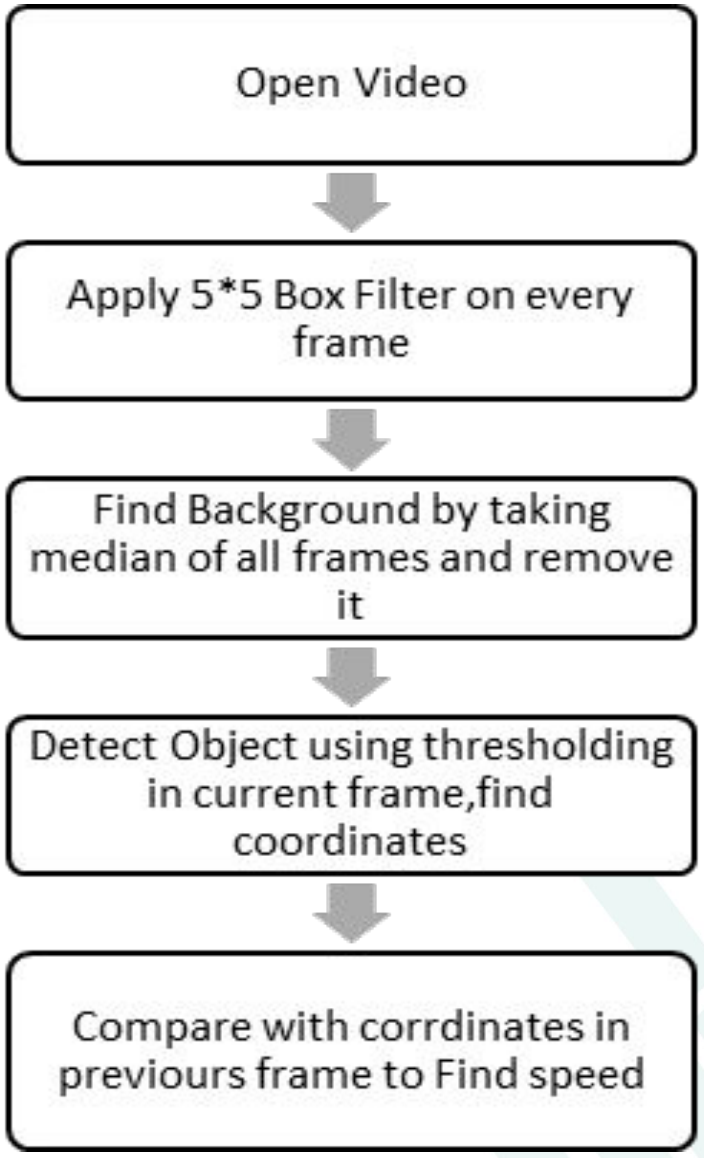
- Traffic Signal Violation



Methodology

- **OverSpeeding Detection**

1. **Non Deep Learning Approach**
   a. Vehicle Detection using Background Subtraction
   b. No. of pixels vehicle moved
   c. Object detection works well for 1 object in 1 frame



Methodology

- **OverSpeeding Detection**

1. **Cascade Classifier**
   a. this model detects the vehicles
   b. It assigns ID to all the object we detected

2. **Yolo Classifier**
   a. this also detects the objects in the video
   b. this gives us certain information about the object such as x, y, width, height, confidence value

Demo

- Traffic Signal Violation detection with speed :

Demo

- OverSpeeding :

Experimental Results

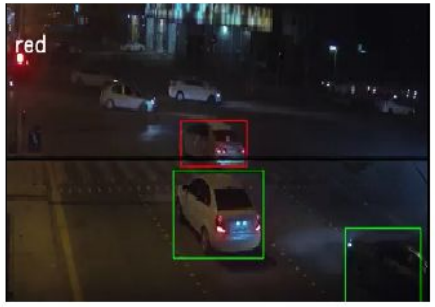
- Problems faced in Non-DL Method
- Using YOLO Classifier we are able to get better results as compared to cascade classifier.

Before Violation

After Violation

Before Violation

After Violation



THANK YOU