

Objective:

The objective is to predict when the ego vehicle has stopped based on the visual input. The python code STOP.py prints "STOP" at the top right corner of the image whenever the ego vehicle comes to a stop.

Algorithm:

1. When the ego vehicle moves, the background moves and when the ego vehicle stops, the background stays rest. So we track feature points which are in the sky (top part of the image) and also on the road (bottom part of the image).
2. If the number of points, for which the length of feature points moved from one frame to the next frame crossing the threshold is above a certain number, then we say that the ego vehicle has moved.
3. The tracking algorithm used here is KLT Tracker.

Dependencies and My environment:

1. Numpy,
2. OpenCV 3.0

How to compile and run:

1. Run the script

```
python STOP.py -v input_videos/1.mp4
```

2. This script will take video from **input_videos** folder, processes it and saves the output in the **output_videos** folder in the name **result.mp4**. The results which are already present in the **output_videos** folder is speeded up at a certain rate.