COMPUTER VISION

HOMEWORK # 2

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AIM:

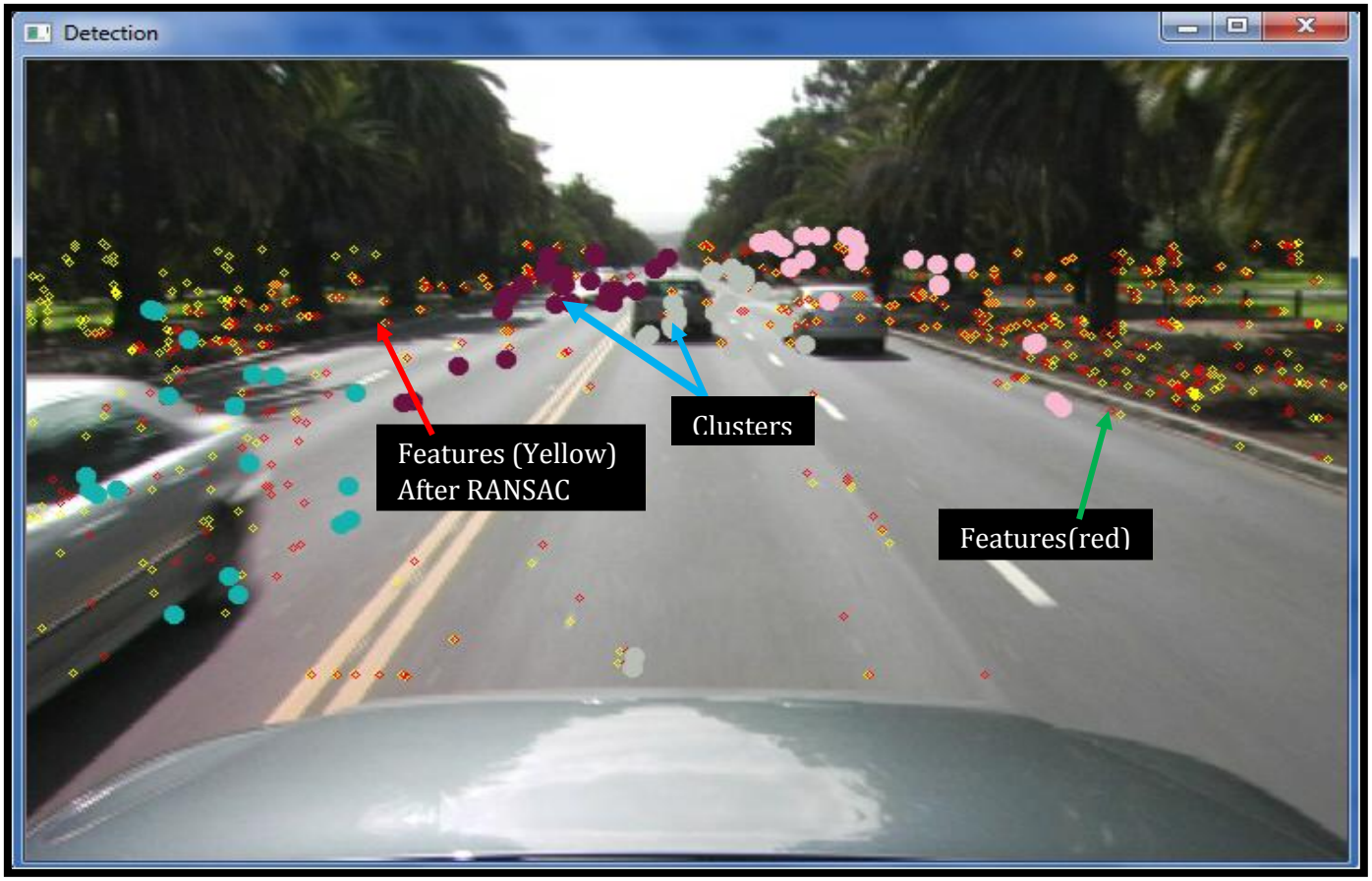
The objective of this assignment is to track and segment moving objects from a video sequence taken by a moving camera.

Four different video clips captured from the same camera are given as the input.

ALGORITHM:

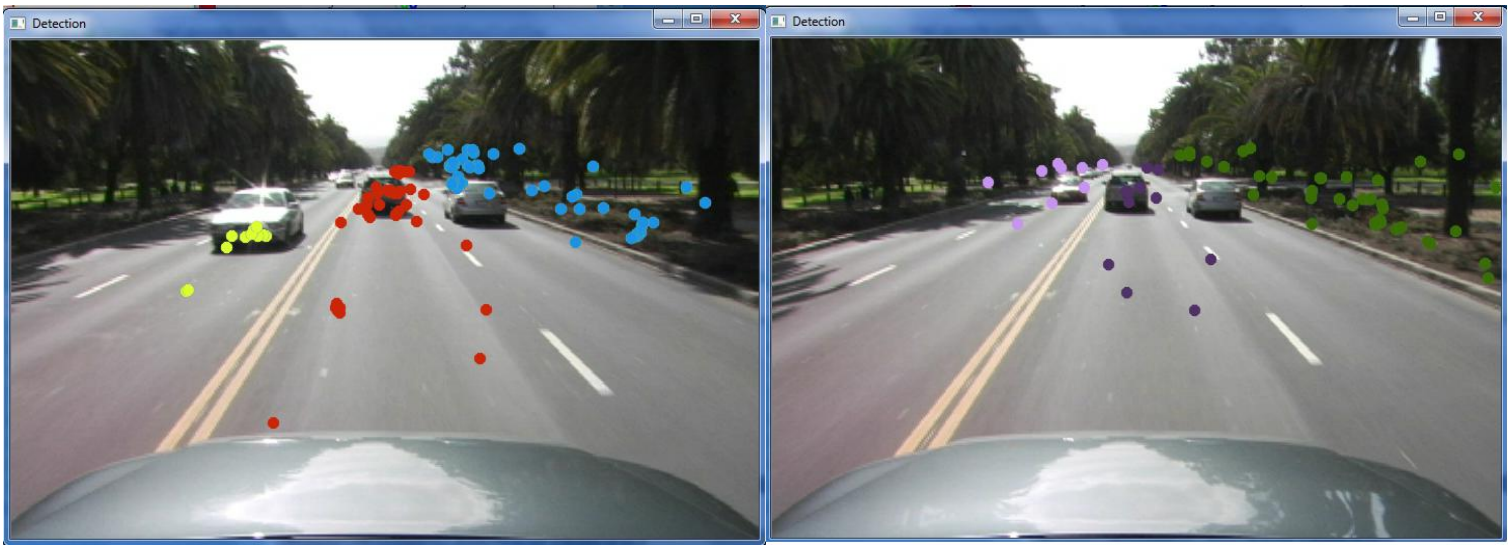
1. Detect edges in video using canny edge detection.
2. Find Sparse optical flow using Pyramidal Lucas Kanade on edge image.
3. Calculate Homography to eliminate outliers.
4. Find field of expansion using vanishing points.
5. Calculate the slope of the optical flow vector and of the vanishing lines. If the slope is the same, that optical flow vector is due to the motion of the camera; else it is due to ego motion of the object.

6.Cluster the points to detect moving objects.

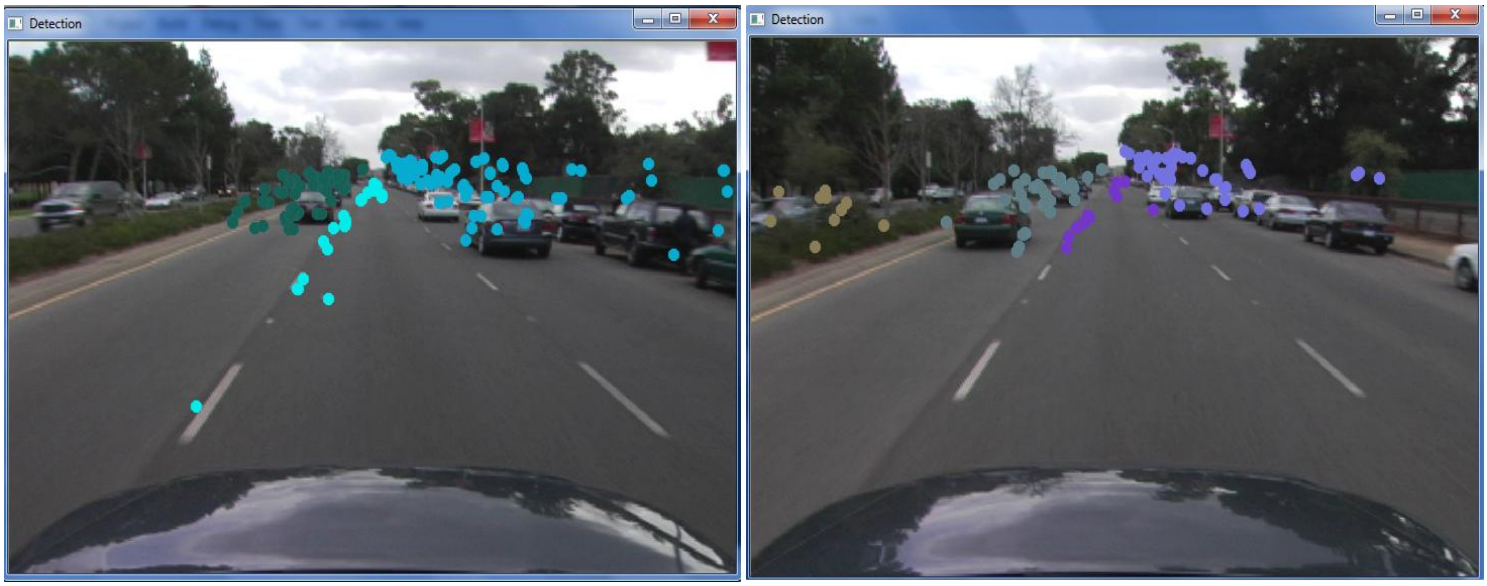


Output:

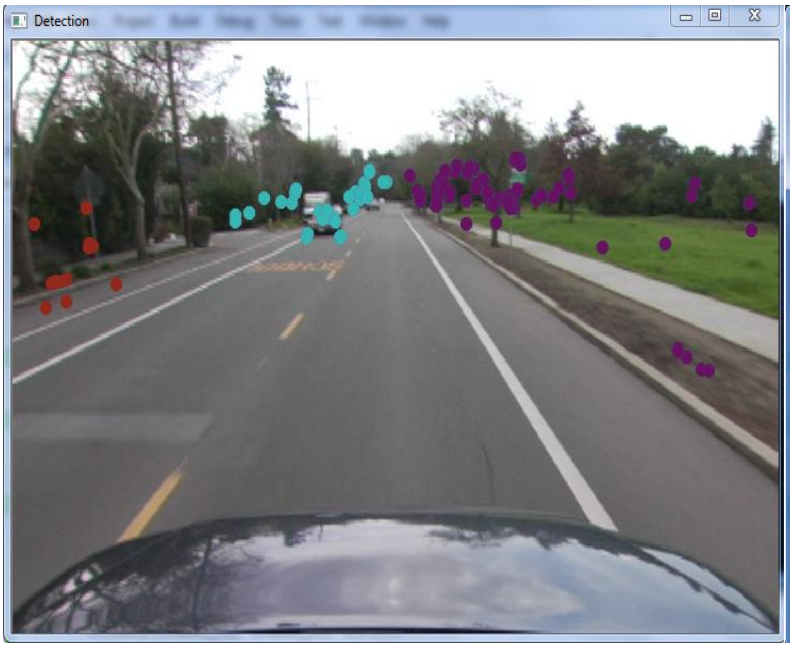
Clip1:



Clip2:



Clip3:



Clip4: