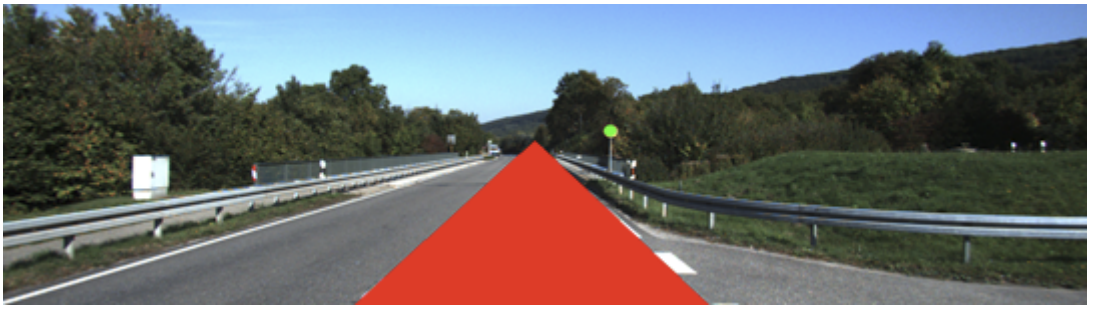
Computer vision course

Proff. Stefano Ghidoni | Matteo Terreran

Lab 4 - Edge and line detection

Task 1
Write a program that loads the image provided (street_scene.png), shows it and evaluates the Canny image. To verify the effect on the final result, add one or more trackbar(s)[1] to control the parameters of the Canny edge detector. Move the trackbars and check how each parameter influences the resulting image. Please note: the Canny image shall be refreshed every time a trackbar is modified.

Task 2
Detect white markings using the Hough transform. Check online sources and apply it using the cv::HoughLines() function. Suggestion: consider the two strongest lines detected, and select their orientation. Color in red the area between the lines - example below.



Task 3
Detect the road sign using the Hough circular transform - function cv::HoughCircles().

Task 4
Segment the sky trying (and comparing) the segmentation technique(s) you feel more suited. Compare and discuss your results.

[1] A trackbar can be added following the example found at:
https://docs.opencv.org/4.9.0/da/d6a/tutorial_trackbar.html