Computer Vision

EMARO- *European Master on Advanced Robotics*

Robotics Engineering *Master Degree*

Lab Session n. 5

NCC-based segmentation

The following items are the steps that you have to do in this lab session:

- Select a window around the red car on the street (in the gray scale image "ur_c_s_03a_01_L_0376.png") and apply the NCC (normalized cross correlation, *normxcorr2*), in order to find the template in all the 5 images (consider the same images of Lab4). Show the position of the maximum of the score map and a box corresponding to the size of the template.
- Consider three different sizes of the window (centered in the red car): discuss the results in terms of computation time and accuracy of detection.
- Compare the results of this Lab with the ones of Lab4 (color-based segmentation).

Notes:

- You have to write a report that describes your work and the obtained results (please include the figures). In the report you must indicate all the surnames of the participants (not other names, e.g. the teachers).
- About the code:
  - You have to use relative paths.
  - You have to write and use functions
  - You have to provide us a script to test your code.
- The code must be uploaded as M-files. All the files (M-files, images, and report) have to be compressed in a single file named "surname_labxx.zip/tgz/rar" (all the surnames of the participants have to be indicated), and then the compressed file has to be uploaded.