COMPUTER VISION – LAB 1

Computer Vision 2018 - M. Carraro, S. Ghidoni, P. Zanuttigh

Topics: Introduction to OpenCV, image loading, pixel manipulation, the RGB and HSV color spaces

Goal: Change the soccer shirt color of all the players in the image

Write a program that:

1. Loads the image stored inside the data folder (you can use the “robocup.jpg” or the “roma.jpg” images)
2. Shows the image on a window
3. Captures the left click of the mouse and computes the mean RGB color over a 9x9 neighborhood of the clicked point
4. Segment the soccer shirts by applying a static threshold to the three channels R, G and B (e.g., $\Delta R < 50$, $\Delta G < 50$, $\Delta B < 50$, but try to change the value)
5. Apply a new color to the selected regions (let’s use RGB = (92,37,201))

Write a program that:

1. Does the same as before, but uses the HSV space. (SUGGESTION: you should apply the threshold only on the H channel, once you segmented the shirts, you can change only the H component, for example to 45 to have green shirts)

RESULT OF THE SECOND PROGRAM: