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Exercise: Python image processing

Objective: Get your hands dirty from OpenCV and sklearn

1. Detect red objects

- Open 01redobjectdetector.py
- Read and understand what's going on
- Fill-out the missing code to highlight red objects and point-out their center of mass

2. Remove noise

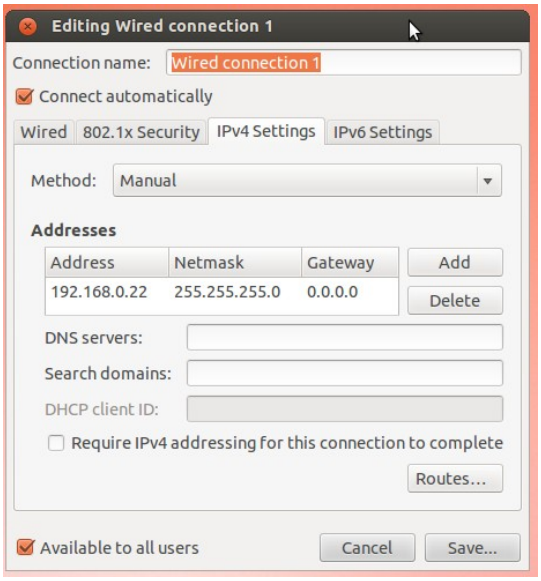
- Write a python-script that removes the noise from noisy_image.png using a median filter

3. Detect red objects and determine their shape

- Open 03circlelocator.py
- Read and understand what's going on
- Fill-out the missing code to point-out only circles

4. Try-out the cameras connected to the robot platforms

A camera, DCS-930L from D-Link, is mounted above each robot. The camera is using a network interface which has to be configured.



Configure your virtual machine to have a static ip connection in order to access the camera.

The default IP address of the webcam is 192.168.0.20 with the username being **admin** and there is no password.

- Open *demo_connectToCamera.py* to test the connection. You might have to change permissions for streaming in the camera's web interface (navigate to its ip using your browser)
- You might also try this demo: https://github.com/au-crustcrawler/au_opencv_example