ENPM 809T – Autonomous Robotics: Summer 2019

Master of Engineering Program in Robotics

Due Date	Tuesday, June 11th, 2019
Submission Information	• This assignment confirms the Raspberry Pi has been properly setup/configured • Submit response to Question #2 via Gradescope by 5:30 pm

Question #1

The Grand Challenge requirements have been posted under ELMS > Modules > Project.

Please read through the requirements this week and email questions, concerns, or clarifications to Dr. Mitchell (mitchels@umd.edu).

Question #2 (10 points)

This week in lecture we worked through initial setup and configuration of our Raspberry Pi's.

At home this week, please work through and **confirm the following** in preparation for our next lecture (Tuesday June 11):

1. All packages (numpy, cv2, etc.) import into Python and *sanitycheck.py* runs with no errors.
2. You can wirelessly connect to the Pi, and Putty/Terminal and VNC function properly.
3. Files can be transferred between your Raspberry Pi and laptop. **Note**: although several approaches to transferring files are listed in the lecture notes, FTP is the preferred method.
4. Raspistill and raspvid function correctly, and you can view the images and videos on your laptop.
5. Picamera functions properly, using the code provided in the lecture notes.

Finally, using the Raspberry Pi, Pi camera, and Python code provided in the lecture notes, record a minimum 30 second video clip by exercising the cv2.VideoWriter() function in OpenCV. *Creative videos encouraged!* Upload the video to your YouTube account (can be accomplished by FTP'ing the file to your laptop or uploading directly from your RPi) then upload a single page .pdf to Gradescope providing the link to the video. Ensure the video is either public or unlisted (**not** private).

As a reminder, always ***properly shutdown your Raspberry Pi*** prior to removing power by typing **sudo shutdown 0** ("zero") into a Terminal Window and hitting enter.