

COMP 4500, Mobile Robotics I
Spring 2018, Prof. Yanco

Lab 6: Vision

Out: Tuesday, 20 March 2018

Due: Tuesday, 3 April 2018

Overview:

In this lab, you'll use the camera to track colored objects.

Using the camera:

See the vision slides on the course web site.

What to do:

For this lab, you should write a program that will allow your robot to search for an object of a particular color (a bin of colored balls and brightly colored objects are in the lab for your convenience). Your robot should be able to track the object once it is found, in a similar fashion to your light seeking robot. If the object moves away, the robot should move closer to it (hint: look at the size of the tracked blob).

Once you can track an object and then keep it near the robot, you have some freedom for the lab, which spans two lab periods. Make the robot do something interesting with vision. For example, you might have your robot find a particular color ball, then kick it away after getting near it. Or maybe you try to gather all of the same colored objects into some location. Your choice. Be creative.

What to turn in:

Turn in a copy of your code (commented, of course) and a description of what you decided to do for the second part of the lab (can be in a comment at the start of the code instead of a separate page) at the start of lab on Tuesday, 3 April. You should also show your robot's behavior to me and to the class in the lab on that day – we'll have a set of mini-demos. You can also make a movie of your robot's behavior if you'd like.