

**CSci 4270 and 6270**  
**Computational Vision,**  
**Spring Semester, 2022**  
**Lecture 02 Exercise**  
**Due: Tuesday, January 18 at 12 Noon EST**

## Guidelines

Lecture exercises are short problems designed to push you to engage with the material from each lecture. They are intended to each require well less than an hour of your time to actually complete. Solutions are to be uploaded through Submittity. Note that no late lecture exercises are allowed. Instead, each student will automatically have their two worst exercises dropped.

They will be graded on a scale of 0-3:

- 0: no submission
- 1: some submission, but not working at all
- 2: partially working, but non-trivial errors,
- 3: mostly or completely working.

Submission instructions will be posted will be posted as soon as they are ready.

## Problem

Write a Python script to read a color image and write a new image with the command line

```
python lec02_ex in_img out_img
```

Here `in_img` is the input file and `out_img` is the output image file. The script should read the image and create two copies of it:  $I_h$  should be a resized version with half the number of rows and columns, and  $I_q$  should be a resized version with one-fourth the number of rows and columns. The output image should show the original image with  $I_h$  written over top of it (and centered) and  $I_q$  also written over top of  $I_h$  and also centered. Here is an example:



We've provided these images to help you.

For your own practical, you should provide some light error checking in your code to make sure the command-line is correct and the image file is read properly. We will not test these.