UNIVERSITY OF MINNESOTA
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

5561 **COMPUTER VISION** **SPRING 2018**

PROGRAMMING ASSIGNMENT 2 (50 points)
Assigned: 03/2/18 Due: 03/22/18

The programming assignment 2 consists of the following problems (Hough transform):

- Finding Lines (25 points). In the image line1.jpg, please compute the parameters for all the lines present using the Hough transform.
- Finding Ellipses (25 points). In the image ellipse1.jpg, please compute the parameters of all the ellipses present (whose axis is parallel to the x-axis) using the Hough transform.

In both cases, you need to do edge detection and thresholding before you apply the Hough transform. If you use Matlab v4, apply your code to the images line1.gif and ellipse1.gif (you may need to covert them to black and white images). If you are using Matlab v5 or Matlab v6, you need to use line1.jpg and ellipse1.jpg. All of these images can be found at the class website. For the two problems, it is essential to provide the parameters for the lines and the ellipses. Also hand in your code. Moreover, you must provide a one page discussion of the results. AVOID USING THE MATLAB BUILT-IN FUNCTIONS. Your grade in this case will be reduced. Finally please submit everything through moodle as well.

You should do the assignment in stages. Please do not waste paper by printing continuously images. View first the results at the IT machines and when you are sure that they are correct, print them and submit the materials through moodle. I suggest you to use MATLAB.