ECE 661 Homework 5

Due: 10/23/2008 Thursday (before the class)

This homework is a straightforward extension of the RANSAC homework you just completed.

Use the code you wrote for Homework 4 to construct the best RANSAC estimate of the homography between two images of the same secne. With RANSAC, accept the estimate that has the best consensus support. Now, with the help of the entire inlier set, use the RANSAC estimate as the initial estimate in a Levenberg-Marquardt based search for the best solution. With regard LM optimization, you have two option : 1) You can do it in Matlab; or 2) You can use an open-source LM library for solving the problem in C. If you do it in MATLAB, you may want to read the tutorial at

http://cobweb.ecn.purdue.edu/~kak/courses-i-teach/ECE661/HW5_LM_handout.pdf.

If you choose to use a C library, here is path to

http://www.ics.forth.gr/~lourakis/levmar/.

Notes.

- Clearly identify the steps you have taken to solve the problem with your own words.
- Your grade depends on the completeness and clarity of your work as well as the result.