CS 6640 Fall 2014 Midterm: 10/22/2014, 1:25pm to 2.45pm

In principle, the midterm will cover all topics that were taught in class and assigned for readings before the Fall break.

This is a <u>close-book exam</u>, just pencil and paper. You can't use any materials (no books, laptop, copies of slides and notes). The style of the exam is similar to the Quiz.

Topics to be covered:

Chapter 2: Fundamentals: All sections <u>except</u> 2.4.4. Image Interpolation and 2.6.5 Geometric spatial Transformations and image registration, and 2.6.7 Image Transforms – these have not been discussed and come later.

Chapter 3: Image Enhancement in the Spatial Domain (all <u>except</u> 333 local histogram processing and 3.6.3 (unsharp masking) and 3.7, 3.8 (Fuzzy Techniques).
Gray levels, histograms, probabilities.
Use of histogram for segmentation by thresholding (slides and assignment 1).
Enhancing via histogram matching.
Spatial Filtering: Correlation/Convolution, Linear smoothing, Edge detection, Nonlinear smoothing filters.
Canny edge and line detection (slides and notes).

Chapter 4: Basics of Fourier Transform and Backtransform, (only book chapters and slides that have been presented in class): Sections 4.1 and 4.2, and slides Fourier I, and handwritten notes I.