

## CS 6640 Fall 2012 Midterm: 10/17/2012, 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 close-book exam, 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 1: Introduction
- Chapter 2: Fundamentals: All **except 2.4.4. Image Interpolation and 2.6.5 Geometric spatial Transformations and image registration, and 2.6.7 Image Transforms.**
- Chapter 3: Image Enhancement in the Spatial Domain (all **except Sharpening Spatial Filters**)
  - Gray levels, histograms, probabilities
  - Use of histogram for segmentation by thresholding (slides and assignment 1)
  - Spatial Filtering: Correlation/Convolution, Linear smoothing, Edge detection, Nonlinear smoothing filters.
  - Canny edge and line detection
- Chapter 4: Basics of Fourier Transform and Backtransform, **excluding Fast Fourier Transform FFT.**