395T Visual Recognition: Outline of lecture for Sept 28, 2012

I. Generic object categorization
   a. Window-based models
      i. Person detection with SVM and HOG (Dalal & Triggs, 2005)
         1. Support vector machines
         2. HOG descriptor
      ii. Pros and cons of window-based models

   b. Part-based models
      i. Bag-of-words
         1. e.g., with Naïve Bayes classifier
         2. Local feature sampling strategies for categorization
         3. Pyramid match kernel
      ii. Generalized Hough for category detection
         1. Implicit shape model (Leibe et al. 2004)
         2. (Class-specific Hough forests – Lempitsky et al.)
      iii. (Deformable part-based model with latent SVM (Felzenszwalb et al. 2008))

II. Mid-level representations
   a. Edge detection
      i. Canny example
   b. Texture representation
      i. Filter banks
      ii. Textons
   c. Segmentation into regions
      i. Gestalt properties
      ii. Segmentation as clustering, grouping
   d. Ongoing topics in mid-level visual representations

Reminder: Assignment 2 due Oct 5.