CMPEN/EE454 Honors Option Special Project: Alternate Image-Segmentation Methods

31 October 2013

1. Goals – build and test Matlab implementations of:
    a. Active Contour Analysis (Szeliski 5.1)
    b. Mean shift (Szeliski 5.3)
    c. Expectation Maximization [E-M] method – mixture of Gaussians
2. Sources
    a. Szeliski
    b. Available Matlab implementation/sources
        i. Matlab activecontour(.) function
        ii. UTexas HW #1 and other WWW sources for E-M method
        iii. Matlab implementations of Mean Shift
    c. Any source you find
3. Report
    a. Give mathematical and algorithmic theory for each method
    b. Describe Matlab implementations and how to run the Matlab code
    c. Test methods with gray-scale and color images
        i. Vary parameters
    d. Give well-commented code
    e. Sum up observations on the pro's and cons of the methods
4. Due date – Wednesday 18 December (during Final's Week)