ECE547 Image Processing Tuesday Oct 6, 2008

Machine Problem 3

Lecturer: Prof. Minh N. Do *Due: Thursday Oct 15, 2008*

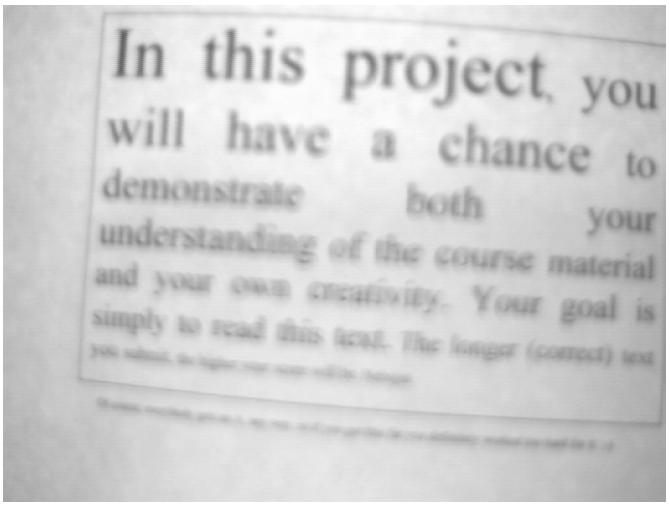
1 Denoising

Do experiment with various learnt image denoising methods (lowpass filtering, median filtering, Wiener filtering, and wavelet denoising) to the real noisy image JFKreg.jpg which is available at `http://courses.ece.uiuc.edu/ece547/mp/JFKreg.jpg`

2 Image Enhancement

In this problem you are provided with an image of the text and are asked to enhance it so that the text in the image is readable. The marks in this assignment will be based on the amount of text that you are able to decipher as well as your creativity in employing image processing techniques.

The picture that you are working with is shown below and is available at `http://courses.ece.uiuc.edu/ece547/mp/guess_what.bmp`.:



You can choose any image enhancement method or denoising method that you are familiar with. Some of the suggestions are:

- Wavelet Denoising
- Median Filtering
- Histogram Equalization
- Edge Enhancement

3 Hand-in

Please create an archive of your work named `netid.zip` or `netid.tar.gz`, where `netid` is your NetID. In this archive, include:

1. For problem 1: The code and denoised images made.
2. For problem 2:

   - A text file `result.txt` which contains your reconstructed text. Make sure that your line breaks match those in the image.

   - The enhanced image(s) that you produced.

   - Appropriate MATLAB files.
3. A short report (plain text will be fine, doc or pdf will be accepted) containing:

   (a) Your name.

   (b) Your comment for comparison between the denoising methods you used in problem 1.

   (c) A brief description of your enhancement method in problem 2.

Please email a copy of the archive to `vuongle2@ifp.uiuc.edu`