EE225B – Digital Image Processing

Information Sheet

Lectures: Tuesday and Thursday, 9:30 am – 11:00 am
521 Cory

Lecturer: Professor A. Zakhor
507 Cory Hall
Ext. 3-6777
Email: avz@eecs.berkeley.edu
Office hours: Thursday, 11 am- 12 pm, 507 Cory

Course Assistant: Lea Barker
253 Cory Hall,
Ext. 2-2384,
Email: leab@eecs.berkeley.edu

Course handouts: Handouts not picked up during lectures can be found with the course assistant.

Texts:
Other useful references:

Outline of Topics:
1. Image reconstruction from partial information
2. Two-dimensional (2-D) Fourier transform and z-transform;
3. 2-D DFT and FFT, FIR and IIR filter design and implementation.
4. Basics of Image Processing techniques and perception;
5. Image and video enhancement
6. Image and video restoration
7. Reconstruction from multiple images: super resolution
8. Image and video analysis: Image Representation and models; image and video classification and segmentation; edge and boundary detection in images
9. Image compression and coding
10. Video compression
11. Image and Video Communication
12. Image and video rendering
13. Image and video Acquisition

Homework:
Homework will be issued approximately once every one or two weeks. They will either consist of written assignments, Matlab assignments or C programming assignments. Homework will be graded, and will contribute 45% to the final grade. Homework handed in late will not be accepted unless consent is obtained from the teaching staff prior to the due date. There will be a project that will constitute 45% of your grade. The project can be individual or in a group. You are to submit a proposal to the instructor by the end of September. More details on the project will be provided later, and a list of suggested topics will be provided. In addition, 10% of your grade will be for in-class presentation of a research paper assigned by the instructor.