COSC 4393/6397
Introduction to Digital Image Processing
Department of Computer Science
University of Houston

http://cbl.uh.edu/course/DIPFall07


Instructors: Prof. Ioannis Kakadiaris (COSC 6397)
Prof. Shishir Shah (COSC 4393)

Prerequisites: You are expected to know basics of linear algebra, linear systems, calculus, and probability/statistics. Homework assignments and course projects will require knowledge of C/C++/Java.

Outline: The objective of this course is to introduce the essential concepts of digital image processing from an operational perspective with some exposure to theory. Aspects of image acquisition, processing, practical applications, and elementary image analysis algorithms will be covered. This course will make digital image processing accessible to computer scientists and engineers that are currently unfamiliar with the topic. We will be programming in C/C++/Java and/or MATLAB for numerous visual examples in the form of actual digital image processing results and homework assignments.

Tentative Topics: Digital Image Acquisition, Binary Image Processing, Histogram and Point Operations, Discrete Fourier Transform, Sampling Theorem, Linear Filtering, Enhancement, and Restoration, Nonlinear Image Filtering, Digital Image Coding and Compression

Tentative Grading: Homework 30%, Midterm Exam 30%, Term Project 30%, Final Report 10%

Recommended Text: Digital Image Processing, 2nd Edition, R. C. Gonzales and R. E. Woods, Prentice Hall, 2002.

Supplement: Digital Image Processing, K. R. Castleman, Prentice Hall, 1996.

HOW TO ADD THIS CLASS [for COSC6397]

To add the class, click "View All Selection" from COSC6397 – Topics Computer Science. Currently the schedule only displays five classes. Doing so, you will be able to see the class "Digital Image Processing" (Section: 04-LEC(14931)) and add.