ECE 172A  Introduction to Intelligent Systems  Fall 2010

Instructor: Mohan Trivedi  mtrivedi@ucsd.edu
Teaching Assistant: Sayanan Sivaraman  ssivaram@ucsd.edu
Website: http://cvrr.ucsd.edu/ece172a/fa10

Course Outline:
This course will introduce basic concepts in machine perception. Primarily it will focus on the topic of perception of visual images using computers. Main topics covered in the course include:

1. Introduction to Intelligent Systems
2. Model-Based Approach in Perception
3. Computational Hierarchy in Machine Vision
4. Image Representation and Processing
5. Image Segmentation
6. Morphology
7. Edge Detection
8. Region Growing
9. Color and Motion Based Analysis
10. Object recognition and image understanding

Prerequisites:

- ECE 101 (Linear Systems Fundamentals) with grade C or better.
- ECE 109 (Engineering Probability and Statistics) recommended
- Programming expertise is highly desirable.

You will need access to MATLAB and its image processing toolbox. They are available in computer labs around campus, or you may purchase your own copy in the bookstore.

Grading:

- 20% Homework
- 25% Midterm
- 25% Final
- 30% Project

Reference Books:


Important Note about Ethical Conduct:
In this class, you are expected to do your own work. Although discussion of assignments and projects is allowed, you must write your own code and solutions (please indicate the students with whom you have collaborated). You may show a classmate your code ONLY if you are asking for assistance in debugging. You may not use code you have found online. You may not look at solutions from previous years. Cite all borrowed idea.

Cheating will be dealt with in a severe manner. If you are unsure whether it is okay to collaborate in a certain manner, ask the Instructor or the TA for clarification.