Spring 2007

CEG 724-01: Computer Vision I

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Computer Vision I

Spring 2007

CRN.: 37063  Lecture: 2:45 - 4:00 PM, M, W  Location: 145 Russ Center
Instructor: A. Goshtasby  Office Location: 495 Joshi  Phone: 937-775-5170
E-mail: agoshtas@wright.edu  Office Hours: 1:00 - 2:30 PM, M, W, or by appointment.

No. Units: 4

Prerequisites: CS-600, MTH-230

Textbook:

*Computer Vision*
by Linda Shapiro and George Stockman
Prentice Hall, 2001

Purpose of Course:

This course covers basic techniques for low-level and some mid-level vision processes. The techniques include: camera geometry, image filtering and edge detection, color and texture analysis, image segmentation, image matching, motion analysis, and stereo depth perception.

Contents: The following chapters in the textbook will be covered.

1. Introduction
2. Image formation and representation
3. Binary images
4. Image filtering
5. Edge detection
6. Color coordinate systems
7. Texture analysis
8. Image segmentation
9. Matching in 2-D
10. Model-based vision
11. Motion analysis
12. Stereo depth perception

Learning Goals:
In this course we will learn computer algorithms that extract information from images and algorithms that process such information to describe the contents of images. Some of the techniques will be practiced through computer implementation.

**Projects and Exams:**

There will be three programming assignments, four Quizzes, and a final project. Programs should be submitted electronically.

**Grading Policy:**

Programming assignments will worth 40%, Exams will worth 40%, and final project will worth 20% of the overall grade. Grades will be assigned as follows. A: [91..100], B: [81..90], C: [71..80], D: [61..70], F: [0..60].

**Calendar:**

| Assignment 1     | Handed out: 4/4/07 | Due: 4/16/07, 2:00 PM |
| Assignment 2     | Handed out: 4/18/07 | Due: 4/30/07, 2:00 PM |
| Assignment 3     | Handed out: 5/2/07  | Due: 5/14/07, 2:00 PM  |
| Quizzes          | On 4/11, 4/25, 5/9, 5/23, 30 Minutes |
| Final Project    | Handed out: 5/16/07 | Due: 6/6/07, 2:00 PM |