Winter 2010

CEG 725: Computer Vision II

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CEG-725 Computer Vision II

Term: Winter 2010   CRN: 21483
Instructor: A. Goshtasby
Email: agoshtas@wright.edu

Lecture: 4:10- 5:25 PM, M, W   Room: 009 Millett
Office: 495 Joshi   Phone: 937-775-5170
Office Hours: 2:00 - 4:00PM, M, W, or by appointment.

No. Units: 4

Prerequisites: CEG-724

Textbook:

*Multi View Geometry in Computer Vision, Second Edition*
Hartley & Zisserman
Cambridge University Press, 2003

Additional Reading: To be handed out in class.

Purpose of Course:

This course is a continuation of CEG-724 Computer Vision I. The primary focus will be on vision processes for 3-D scene recovery.

Contents:

1. Introduction (ch1)
2. Projective geometry and 2-D transformations (ch2)
3. Estimating 2-D transformation parameters (ch4)
4. Camera models (ch6)
5. Camera calibration (ch7)
6. Epipolar geometry and and stereo vision (ch9)
7. 3-D reconstruction from two views (ch10)
8. Stereo camera calibration (ch11)
9. Shape from shading (handout)
10. Shape from texture (handout)
11. Shape from line drawing (handout)

Learning Goals:

In this course we will learn computer algorithms that interpret images. Some of the algorithms will be practiced through computer implementation.

Projects and Exams:
There will be three projects, three quizzes and a presentation. A typical programming assignment will require about 20 hours of study and programming. Each student will be assigned a paper to read and present to the class.

**Grading Policy:**

Projects will worth 45%, quizzes will worth 45%, and presentation will worth 10% 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:**

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