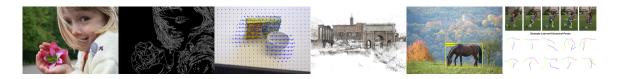# EECS 598-01 Special Topic
Foundations of Computer Vision

Fall 2015   MW 12:00-1:30PM in 1005 DOW

Course Overview: Computer Vision seeks to extract useful information from images, video and other visual content. This course will introduce the breadth of modern computer vision through a few foundational problems that span various topic areas.   Examples of possible foundational problems include image formation and projective geometry, robust model fitting, perceptual priors, matching and similarity, invariance, motion, and multiview geometry.   The foundational problems will be tied to specific applications such as feature extraction, segmentation, structure from motion, and action recognition.

Target Audience: The course has been designed to present an introduction to computer vision targeted to graduate students at the PhD and MS level. The course will balance theory and application both in lectures and assignments.

Differences from EECS 442: This course and EECS 442 share the same goal: an introduction to modern computer vision. This 598 course will differ from 442 in the level of depth of material and approach, primarily in the emphasis on foundational problems. EECS 442 is not a prerequisite for this course; nor is any prior course in computer vision. In summary, this is an introductory computer vision course designed for graduate students.

Prerequisites: Graduate standing; students are expected to have a working knowledge of linear algebra, vector calculus, probability and statistics; students are expected to be (or become) proficient in MATLAB. No prior course or experience in computer vision is needed.

Administrative Details: EECS 598-01 will satisfy the same program requirements as EECS 442, except that 598-01 counts 3 credits whereas 442 counts 4. Students cannot earn credit in both 442 and 598-01.

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