ELEC 539 Digital Image Processing Gang Project

Due: Exam Week, April 1999

An open ended investigation into an application area of image processing in gangs of 3–4 members. Grading will be based on the results of the work (that is, "did it work?"), the degree of innovation, and the quality of the written report and oral presentation.

Deliverables:

1. A composite written report containing the theoretical background, methods employed, practical application results, plus a breakdown of each gang member's role. *The report must be written in HTML and be available on the WWW.* Length: equivalent of 10–15 pages. (70% of grade) (For examples of project reports, see the on-line project reports from Elec 431 and previous offerings of Elec 539.
2. A 20 minute oral presentation on your project. (30% of grade)

Milestones:

1. Tuesday 6 April: Set up gang (exactly 3–4 members); choose topic and gang name
2. End of April: Reports due
3. Exam week: Oral presentations

Possible Topics:

Overlapped transforms
Perceptual models for coding
Advanced image compression
Fractal compression
Image perception
Stochastic image processing
Image detection and registration
Feature extraction
Morphological image processing

Shape and texture analysis
Computer vision
Tomography
Synthetic aperture radar
Radon transforms
Half-toning
Color image processing
Video signal processing
Optical image processing
Phase retrieval
Blind deconvolution
Filter design

Basically anything we will not cover in the course