Outline
CS376 Computer Vision
Wed, April 20, 2011

Motion estimation

- Optical flow
    - Constraints (brightness constancy and small motion) and optical flow equations
    - The aperture problem
    - Adding the spatial coherency constraint, solving for flow vectors
    - When is it solvable?
- Motion vs. stereo
- Example applications of optical flow as a feature

Activity recognition in video

Background removal and background subtraction

- Frame differencing
- Determining the "empty" background: mean, median filter
- Pros and cons of subtraction approach
- Extensions: mixture models, using depth

Human activity recognition

- Terminology of the tasks: actions, activity, events
- Basic approaches
- Actions as a space-time motion pattern:
    - Optical flow descriptors for actions at a distance
    - Temporal templates with motion history images and Hu moments

Pset 5 is out, due 5/8

Due to travel, my office hours will be Tues 3:30-4:30 pm this week (instead of Wed).