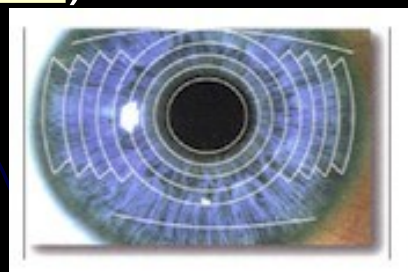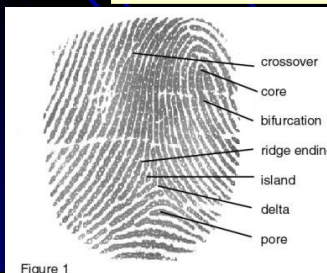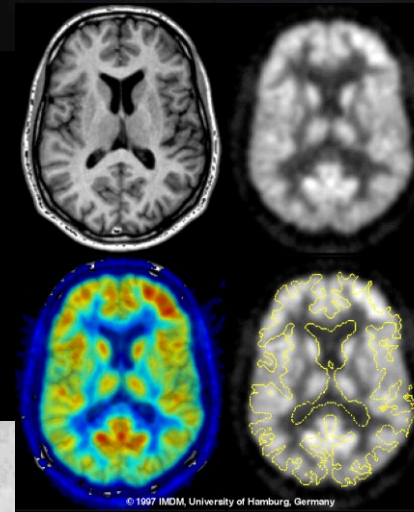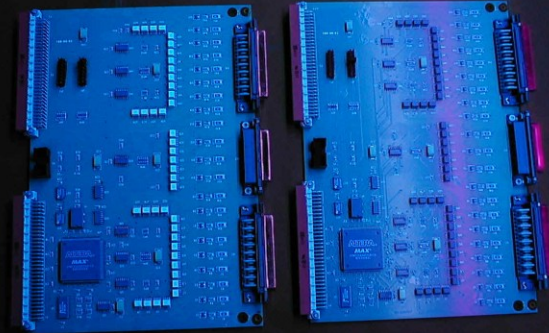# Image Recognition has a wide variety of cool apps
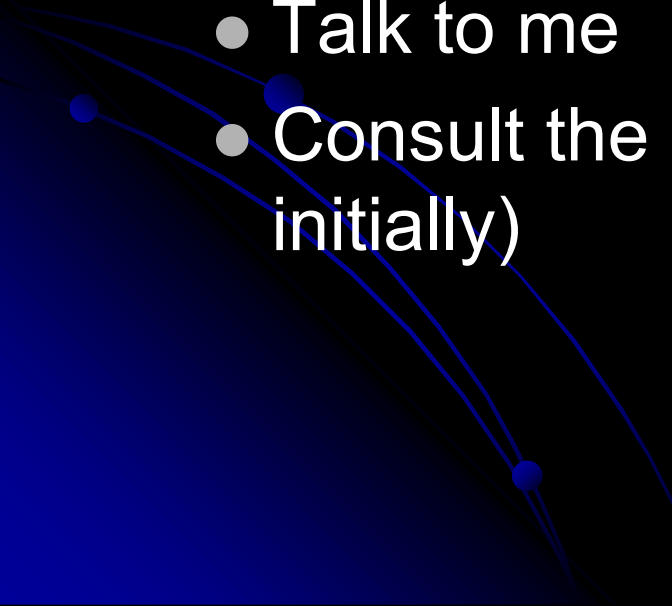
- Robotic control
- Quality control of manufactured parts
- Medical imaging
  - Images from Dr. Walter
- Biometrics
- Photograph analysis
- Surveillance
- Face detection
- Color matching by cell-phone
- 3D photography/mapping (Google's street view)

2006/12/05 17:05

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crossover
core
bifurcation
ridge ending
island
delta
pore

Figure 1

1
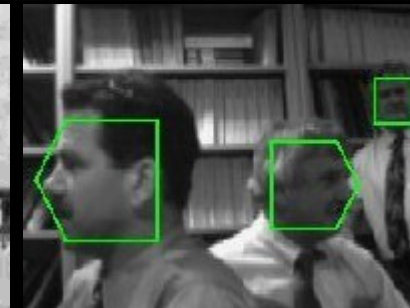
Term Projects

- Requirements
  - Interesting to you
  - Anywhere on theoretical to real-world spectrum
  - Could lead to publishable work
- Teams of 4
- Each person email me a topic (1 annotated slide, with >= 1 reference) by Monday 11:59 pm
- If you have already formed a team, you need only submit **1 proposal per team**.
  - Will give a 2-minute, 1-slide "lightning talk" on Tuesday and projects will be chosen by the end of the day.

How to start

- What interests you, either in the list or on your own?
- Be creative!
- Dig some
  - Talk to me
 - Consult the literature (at least 1 reference initially)

Past CSSE463 projects

- Misapplied coating
- Counting Fly-eye cells
- Gesture recognition
- Aerial airplane detection
- Iris detection
- Image tagging
- Shopping cart surveillance for Baesler's
- Where's Waldo?
- Connect the Dots
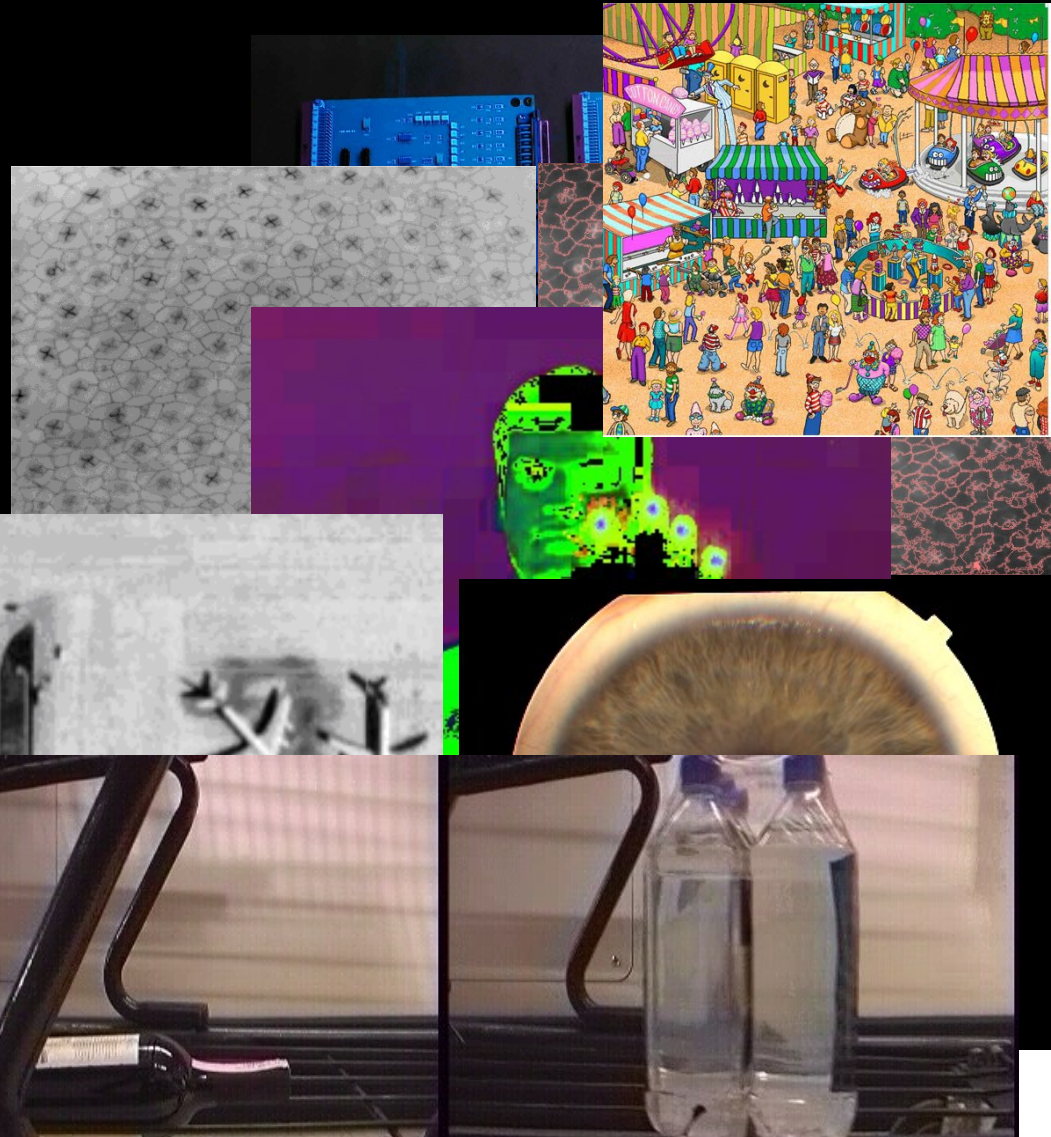
Past projects, 2009-10

- Road-sign detection
- License-plate detection
- Recognizing Constellations
- IGVC Obstacle and Line Detection
- Connect the Dots
- Geographic Feature Extraction from Satellite Images
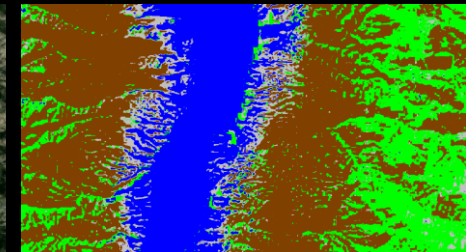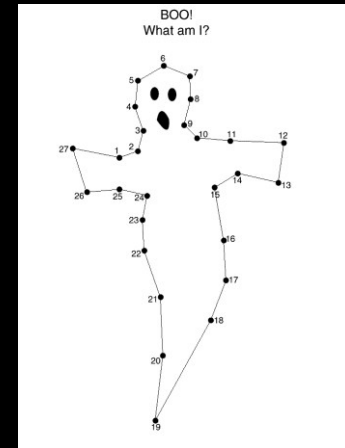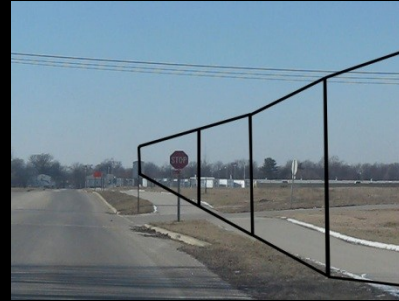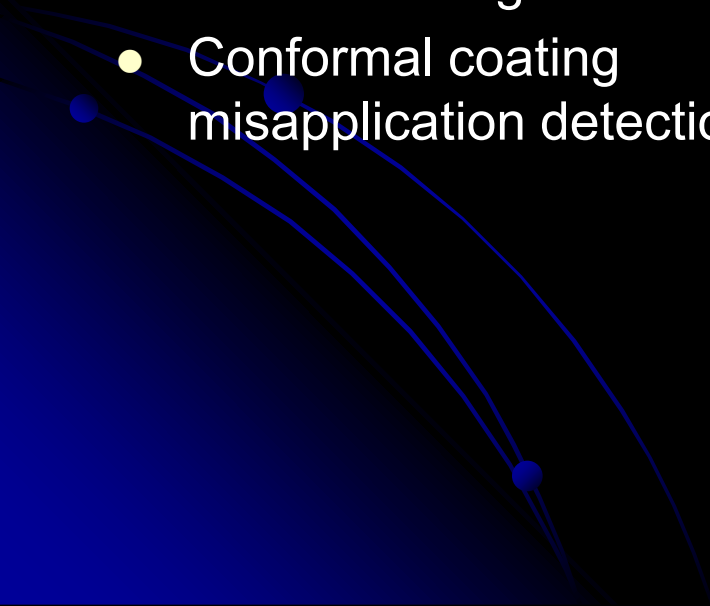
Past projects, 2008-09

- Tennis-ball tracker in video (in OpenCV, not MATLAB)
- Projectile Hole Recognition
  - For senior project
- High-capacity color barcodes
- Road location from frontal view
- Towards automatic generation of *Mii*s from photos
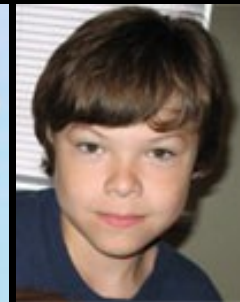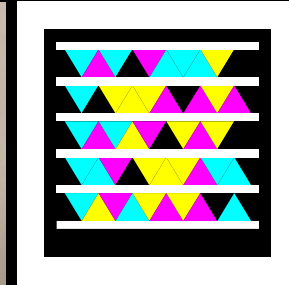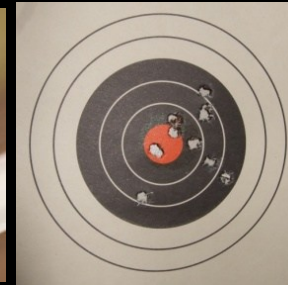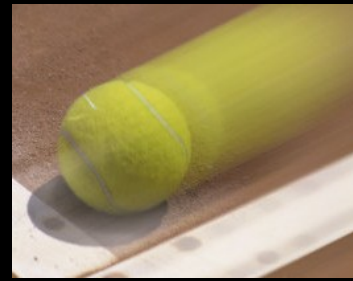
Past projects, 2007-08

- Handwritten digit recognition for Tablet PC
- ID'ing the goal and ball in RoboCup
- Playing Card ID system
- Salamander recognition (for biologists)
- Talk show recognition from video stills
- NEAT Face Detection
- Towards Object Recognition, using OpenCV and real-time videos
- Painting genre classifier

Past projects, 2006-07

- Automated image region tagging
- Spot the differences
- Connect the dots (digit recognition)
- Counting cells in fly retinas
- Gesture recognition
- Conformal coating misapplication detection

Past projects, 2005-06

- Where's Waldo?
- Face recognition in video
- Iris detection
- Sport classification
- Eigenfaces
- Aircraft detection in aerial images
- Baesler's shopping cart detection