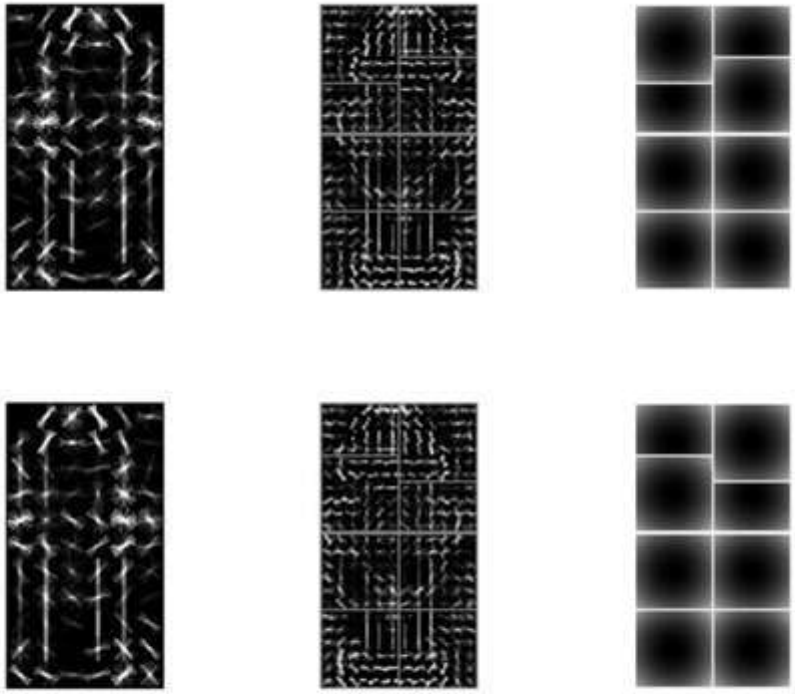
Week 7

Amir Zamir and Stephanie Morris

Accomplished

- Created Hydrant Detector
- Tested Detector
- Refined Detector
- Began coding GIS/Detector fusion
  - Need to create database of Hydrant GIS data
  - Getting probabilities with Sigmoid function and Pedro detection score (currently have detection score only)
  - Currently working on naïve approach

Visualization of Hydrant Detector



Testing Detector

- Got a few positive examples, one negative example, and one difficult example to test detector on
- Tested with three different thresholds, 0, -.5, and -1
- Found optimal threshold by running a script that goes through 20 positive images and 10 negative images from the DC hydrant Google Earth map and processes them
- Optimal threshold is -0.8, this is the threshold I will use

Rough Testing

- Found a few sample images off the internet that were not used in training
- Positive and Negative
- Trying to see what a good threshold is
- Rough testing of threshold
  - Values of 0, -.5, and -1

Positive Test Image



Results of Detector



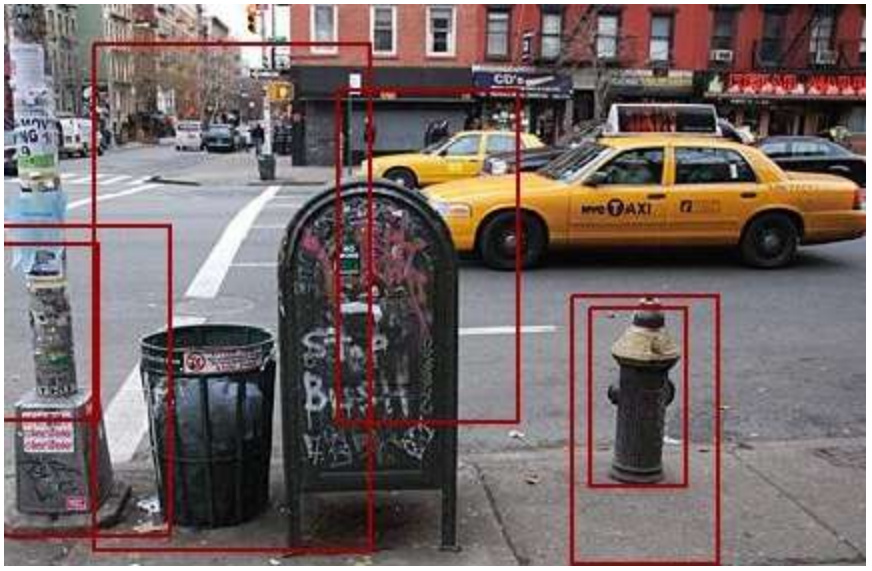


Positive Test Image



Results of Detector



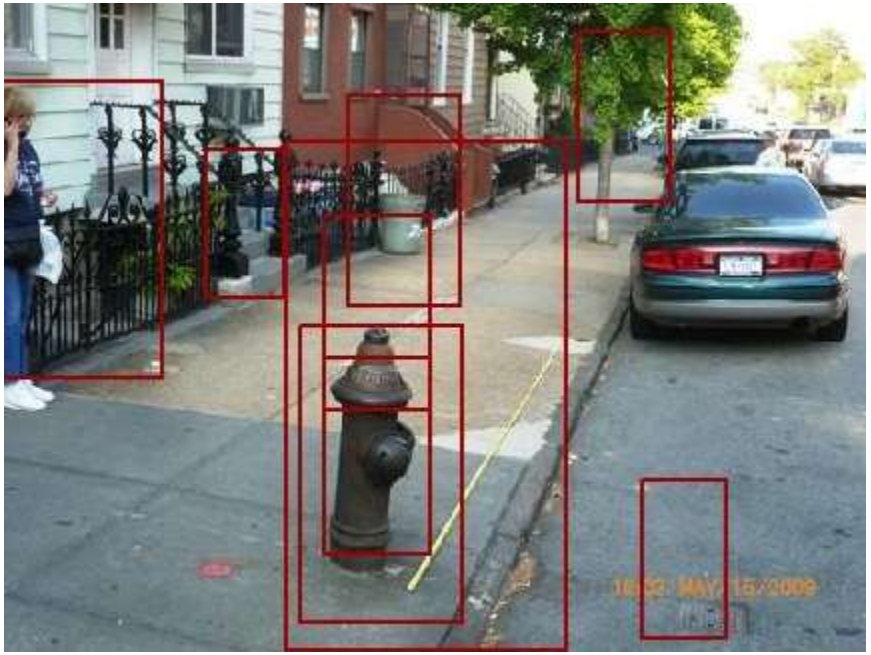


Positive Test Image



Results of Detector

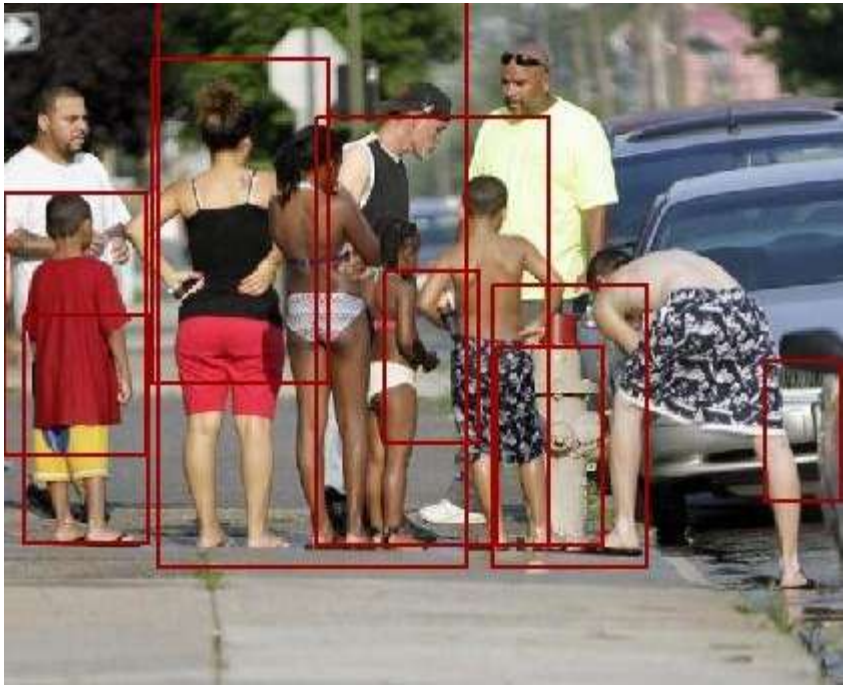




Positive Test Image



Results of Detector



Negative Test Image



Results of Detector



Difficult Example







Refined Testing

- Testing 30 pictures
  - 20 positive
  - 10 negative
- Tested thresholds between -1 and 0 with a step size of .1
- Decided that threshold of -.7 is best

Goals

- Make object detector for another object (bus stop, traffic signal, or lamppost)
- Continue coding fusion method:
  - Get GPS location of query image
  - Distance to closest fire hydrant
  - Convert to probability value