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
Results of Detector
Positive Test Image
Results of Detector
Results of Detector

![Image of fish with detection boxes](image_url)
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