Outline
CS376 Computer Vision
Monday, April 18, 2011

Discriminative classifiers for image recognition (wrap up from last time)

- Support vector machines (SVM)
    - Recap: large margin motivation, definition of algorithm for linear case
    - Non-linear SVMs and the kernel trick
    - Multi-class classification via binary SVMs
    - Gender classification example
    - Pros and cons

Part-based and local feature models for generic object recognition

- Bag of words (no geometry)
    - Visual words and object parts
    - Naïve bayes model for classification
    - Confusion matrix for evaluation
    - Some practical notes
    - Local feature correspondence kernel for discriminative learning with local features
        - Pyramid match: descriptors, spatial
        - Example results
- Implicit shape model (star graph for spatial model)
    - Training process
    - Detection (testing) process
- Constellation model (fully connected graph for spatial model)
    - Model definition
    - Example learned models
- Comparison of the two spatial models

Recap of basic recognition models covered in last couple weeks

Coming up: Video processing