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