

Outline

CS376 Computer Vision

Monday, Feb 21, 2011

Fitting with deformable contours

Recall: grouping and fitting goals

Motivation for deformable contours:

- Beyond explicit models, need to fit unpredictable shapes.
- Want to express loose shape priors
- Non-rigid, deformable objects; video
- Compare/contrast with Hough

Contour representation

Defining the energy functions

- External term to match image data: definition, example
- Internal term to enforce generic priors (smoothness, low curvature): definition, example
- Role of the weights in the energy function

Minimizing the energy function

- Greedy search
- Dynamic programming Viterbi algorithm (for a chain)

Extensions: Tracking, 3d active surfaces, interactive segmentation

Summary of pros and cons

Reminder: Pset 2 is due March 2.