Week 3

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May 20, 2013
Motion models from computer vision.
Scene Understanding by Statistical Modeling of Motion Patterns. CVPR 2010.

- Split video into short clips
- Compute optical flow on each clip
- Cluster data points to make Gaussians
- Use reachability and temporal locality to join Gaussians and make instances of motion patterns
- Use KL divergence to group instances into motion patterns
Second Method

Similarity Invariant Classification of Events by KL Divergence Minimization. ICCV 2011.

- Split video into short clips
- Computer optical flow on each clip
- Cluster data points to make Gaussians
- Group Gaussians by weighted squared Mahalanobis distance to make motion patterns
Data mining trajectory clustering

Find trends in trajectory data.
Gather and read data mining trajectory clustering papers to find commonly used data sets and state-of-the-art algorithms to use and compare against.

Modify and implement motion models to discover motion patterns in trajectory data sets.