

Course Projects

1. System for recognizing objects from multi-view

1. replicate Savarese et al 07,08: [3-4 openings here!](#)
2. Multiview part based models and dimensionality reduction: [Liang Mei + ?](#)

2. Tracking & Pose estimation from videos

1. Tracking humans & estimate their pose: [Wongun Choi + ?](#)
2. Extracting planar surfaces & normals: [1-2 openings here](#)
3. Object segmentation using motion cues: [1-2 openings here](#)
4. Accurate occlusion mask generation using motion cues: [1 opening here](#)

3. Scene understanding from 2D & 3D data

1. Recognize a scene category from 3d data: [Paritosh Gupta + ?](#)
2. Detect object by combining 3d data with images: [1-2 openings here](#)
3. Spatial reasoning on parts & codewords: [Byung Kim + ?](#)
4. Stitching images with 3D structure: [1 opening here](#)

4. Mobile vision: implementing single instance object recognition on a mobile device platform: [1-3 openings here](#)

System for recognizing objects from multi-view: replicate Savarese et al 07,08

Read papers:

http://www.vision.caltech.edu/savarese/papers_web/SavareseFei-Fei_ICCV2007.pdf

http://www.eecs.umich.edu/~silvio/papers/savarese_feifei_eccv08.pdf

Sub-project 1: Extract features, match features across pair of views, collect features into parts; represent parts as BofW

Sub-project 2: Connect parts across views; extract most frontal view parts (canonical part)

Sub-project 3: Modeling: Create graph of canonical parts; learn object model graph: match graphs across instances

Sub-project 4: Recognition: Match model graph with test image

Send your project preference to:
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