JOEL JURIK

Report Meeting – 6/5

Motion Analysis with Mikel Rodriguez

- Project Outline
  - No clear outline yet, discussing ideas with Mikel, reading surveys and research papers. Meeting with him at 1pm today.

- Initial Plan
  - Study research papers and surveys and come up with a few ideas.

- Progress
  - Read 'Recent Developments in Human Motion Analysis'
  - Read 'A survey of advances in vision-based human motion capture analysis'

Review of Surveys

- Three major tasks for motion analysis:
  - Human detection
    - Where is the human in the current frame?
  - Human tracking
    - Associating detected humans in the current frame, to those in previous frames.
  - Human behavior understanding
    - Recognizing different actions.

Interests so far

- Human detection
  - Background subtraction
  - Temporal differencing
- Action recognition
  - Detecting walking, running, etc.

Other Progress

- Dr. Sukthanker Visual Bits
  - Read "Unifying Discriminative Visual Codebook Generation with Classifier Training for Object Category Recognition"
    - Codebook generation interleaved with classifier training
    - Image represented by a set of vectors, one for each object category. Each element is a category-specific visual bit.
  - Read "Robust Real-time Object Detection"
    - Describes system that detects images rapidly
      - Integral Image
      - New learning algorithm based on AdaBoost
      - Cascade of classifiers