The PASCAL Visual Object Classes Challenge 2009 (VOC2009)

Discussion

Mark Everingham
Luc Van Gool
Chris Williams
John Winn
Andrew Zisserman
Dataset

- **Known Bias**
  - Some bias due to keyword-based image collection
  - Images with only many small objects are discarded
  - Segmentation/person layout data is biased towards simple scenes with larger objects

- **Small Objects/Context**
  - Objects unrecognizable in isolation are ignored in the evaluation but are included in the annotation
Sustainability

- **Cost & Difficulty**
  - Annotation is expensive: ~700 person hours for 2009
  - Difficult to maintain high quality annotation with increased number of object classes ("cognitive load")
  - Withholding test annotation from 2008 and combining datasets to reduce cost
  - 2010 will use Mechanical Turk

- **Availability of Data**
  - Becoming difficult to find examples of certain categories on flickr
Challenge

- “Longitudinal” Data
  - New test set every year makes measuring improvement difficult
  - 2009 allows test on 2008 but with more training data
  - Stop collecting more (test) data?

- Classification: “Pushing the curve”? 
  - Are we encouraging incremental research?
  - Is “bag of words” the last word?
  - Can we (please) drop this task or make more “realistic”?
Annotation

- Bounding Boxes?
  - More suitable for some objects than others...

- Alternatives?
  - Should we be annotating less data in more detail?
    - Polygons, “sketches”, parts, pixels, ...?
  - Should we be annotating more data in less detail?
    - Weak supervision e.g. keywords at image level?
  - Are we annotating the right data?
    - Video?
Evaluation

- Useful to the community?
  - Are we measuring the right thing?
  - How to provide useful diagnostic information to guide research?

- “Taster” Challenges
  - Layout evaluation too punitive...
  - Should we continue with this task?
  - What other tasks should be introduced to stimulate research?