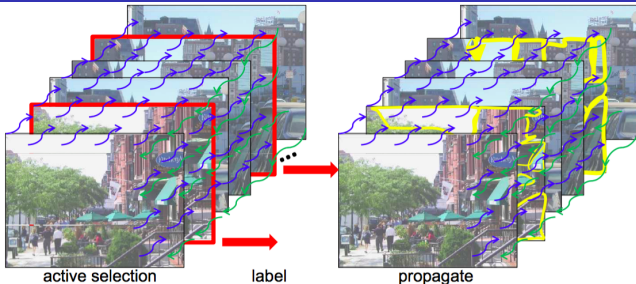


Active Frame Selection for Label Propagation in Videos

S. Vijayanarasimhan, K Grauman (ECCV 2012)



- ▶ Existing methods simply propagate annotations from arbitrarily selected frames and so may fail to best leverage the human effort invested
- ▶ Defines an active frame selection problem: select k frames for manual labeling, such that automatic pixel-level label propagation can proceed with minimal expected error
- ▶ Contributions:
 - ▶ Proposes a solution that directly ties a joint frame selection criterion to the predicted errors of a flow-based random field propagation model
 - ▶ Derives an efficient dynamic programming solution to optimize the criterion
 - ▶ Shows how to automatically determine how many total frames k should be labeled in order to minimize the total manual effort & correcting propagation errors
- ▶ Evaluates on Labelme, Camseq, Segtrack, and Camvid datasets