

Graph Cuts and Related Discrete or Continuous Optimization Problems

Monday February 25, 2008

- 8:00–12:00 *Discussion Leader: Tony Chan*
- 9:00–9:10 *Welcome and Opening Remarks*
- 9:10–10:40 **Leo Grady** (Siemens Corporate Research, Inc.)
Reformulating and Solving Continuous Functionals and PDEs on Graphs: Applications in Computer Vision
- 10:45–11:10 *Break*
- 11:10–11:55 **Nikos Komodakis** (University of Crete)
MRF optimization based on linear programming relaxations
- 12:00–2:00 *Lunch (on your own)*
- 2:00–2:45 **Philip Torr** (Oxford Brookes University)
An Analysis of Convex Relaxations for MAP Estimation (Part I) & Minimizing Higher order Energy Functions using Graph Cuts (Part II)
- 2:50–3:05 *Break*
- 3:05–3:50 **Andrew Goldberg** (Microsoft Research)
New Tricks for an Old Dog: Improved Maximum Flow Algorithms
- 3:55–4:10 *Break*
- 4:10–4:55 **Yuri Boykov** (University of Western Ontario)
Optimization of surface functionals using discrete graph cut algorithms
- 5:00–7:00 *Poster Session & Reception (hosted by IPAM)*

Tuesday February 26, 2008

- 8:00–12:00 *Discussion Leader: Fadil Santosa*
- 8:00–9:00 *Continental Breakfast*
- 9:00–9:45 **Dorit Hochbaum** (University of California, Berkeley (UC Berkeley))
Efficient cut-based image segmentation techniques
- 9:50–10:05 *Break*
- 10:05–10:50 **Boris Zalesky** (United Institute of Informatics Problems, National Academy of Belarus)
Multiresolution Graph Cut Methods in Image Processing and Gibbs Estimation
- 10:55–11:10 *Break*

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- 11:10–11:55 TBA
- 12:00–2:00 Lunch (on your own)
- 2:00–2:45 **Jerome Darbon** (University of California, Los Angeles (UCLA))
Global MRF optimization and the particular case of TV
- 2:50–3:05 Break
- 3:05–3:50 **Stanley Osher** (University of California, Los Angeles (UCLA))
Bregman iterative algorithms for compressed sensing
- 3:55–4:10 Break
- 4:10–4:55 **Jose Dias** (Instituto Superior Tecnico)
Multi-source Absolute Phase Estimation: A Multi-precision Approach Based on Graph Cuts

Wednesday February 27, 2008

- 8:00–12:00 Discussion Leader: Selim Esedoglu
- 8:00–9:00 Continental Breakfast
- 9:00–9:45 **Hiroshi Ishikawa** (Nagoya City University)
Organizing higher-order cliques by sparse representation
- 9:50–10:05 Break
- 10:05–10:50 **Pedro Felzenszwalb** (University of Chicago)
Efficient Belief Propagation for Early Vision
- 10:55–11:10 Break
- 11:10–11:55 **Vladimir Kolmogorov** (University College London)
A faster algorithm for computing the principal sequence of partitions of a graph
- 12:00–2:00 Lunch (on your own)
- 2:00–2:45 **Jens Keuchel** (BrainLAB)
Semidefinite Programming Relaxations for Combinatorial Optimization Problems
- 2:50–3:05 Break
- 3:05–3:50 **Achi Brandt** (Weizmann Institute of Science)
Multilevel Processing of large graph problems
- 3:55–4:10 Break
- 4:10–4:55 **Ronen Basri** (Weizmann Institute of Science)
Multiscale Image Segmentation

Thursday February 28, 2008

- 8:00–12:00 *Discussion Leader: Davi Geiger*
- 8:00–9:00 *Continental Breakfast*
- 9:00–9:45 **Daniel Cremers** (University of Bonn)
Global Solutions for Shape Optimization in Computer Vision
- 9:50–10:05 *Break*
- 10:05–10:50 **Endre Boros** (Rutgers University)
A strongly polynomial preprocessing for quadratic binary optimization
- 10:55–11:10 *Break*
- 11:10–11:55 **Andrew Blake** (Microsoft Research)
LogCut - Efficient Graph Cut Optimization for Markov Random Fields
- 12:00–2:00 *Lunch (on your own)*
- 2:00–2:45 **Olga Veksler** (University of Western Ontario)
Multi-label Moves for Multi-Label Energies
- 2:50–3:05 *Break*
- 3:05–3:50 **Gilbert Strang** (Massachusetts Institute of Technology)
Minimum Cuts, Maximum Area, and Duality
- 3:55–4:10 *Break*
- 4:10–4:55 **Hugues Talbot** (École Supérieure d'Ingénieurs en Électrotechnique et Électronique)
Continuous maximal flows and applications

Friday February 29, 2008

- 9:00–9:45 **M.I. Schlesinger** (Institute of Cybernetics)
SOLUTION TO (MAX,+)-LABELLING PROBLEMS ON THE BASE OF THEIR EQUIVALENT TRANSFORMATIONS
- 9:50–10:05 *Break*
- 10:05–10:50 **Martin Wainwright** (University of California, Berkeley (UC Berkeley))
Tree-reweighted max-product and linear programming relaxation: Algorithmic connections and some randomized analysis
- 10:55–11:10 *Break*

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11:10–11:55 **Pradeep Ravikumar** (University of California, Berkeley (UC Berkeley))

12:00–2:00 *Lunch (on your own)*

2:00–2:45 **Christoph Schnörr** (University of Heidelberg)
On TV Regularization of Image Flows and MRF-Inference by DC-Programming

2:50–3:05 *Break*

3:05–3:50 **John Sullivan** (Technische Universität Berlin)
From Continuous to Discrete: the Example of Minimal Surfaces

