2nd Int'l (IEEE) Workshop on

Statistical and Computational Theories of Vision

— Modeling, Learning, Computing, and Sampling

Vancouver, Canada, July 13, 2001

(*Selected papers will be published in a special issue of the Int'l Journal of Computer Vision*)

Final Program

7:55AM Workshop Opening.

8:30AM-10:00AM Session 1: Statistics of Natural Imagery and Visual Learning
(session chair: Alan Yuille)

- *The Complex statistics of high contrast patches in natural images*
  —- A. Lee, K. Pedersen, D. Mumford, Brown University.
- *Sparse Coding in Practice*
  —- C. Chennbhotla and A. Jepson, University of Toronto.
- *Template Learning from Atomic Representations: A Wavelet Based Approach to Pattern Analysis*
  —- C. Scott and R. Nowak, Rice University

10:00AM-10:15AM Coffee Break.

10:15AM-12:15PM Session 2: Effective Computing and Sampling.
(session chair: Song-Chun Zhu)

- *Bethe free energy, Kikuchi approximations, and belief propagation algorithms*
  —- J. Yedidia, W. T. Freeman, and Y. Weiss, MERL and UC Berkeley.
- *A Double-Loop Algorithm to Minimize the Bethe and Kikuchi Free Energies*
  —- A. L. Yuille Smith-Kettlewell Eye Res. Inst.
- *Asymptotically Admissible Texture Synthesis*
  —- Y.Q. Xu, S.C. Zhu, B.N. Guo,and H.Y. Shum, Microsoft and Ohio State.
- *Efficient Computation of Kernel Density Estimation using Fast Gauss Transform with Applications for segmentation and tracking*
  —- A. Elgammal, R. Duraiswami, L. S. Davis, University of Maryland.

12:15PM-2:00PM Lunch Break.

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2:00PM-3:30PM Session 3: Face and Material Recognition with Fast algorithms
(session chair: Michael Black)

- *Robust Real Time Object Detection*
  —- P. Viola and M. Jones, MERL, MIT, CRL.
- *Surface reflectance Estimation and natural illumination statistics*
  — R. Dror, T. Adelson, A. Willsky, MIT.
- *Constructing structures of facial identities on the view sphere using kernel discriminant analysis*
  — Y. M. Li, S. G. Gong, H. Liddell, University of London.

3:30PM-3:45PM Coffee Break.

3:45PM-5:15PM Session 4: Random field theories
(session chair: Bill Freeman)

- *A generative model for image contours: a completely characterized non-Gaussian joint distribution*
  —- J. August and S. W. Zucker, Yale University.
- *G-factors: Relating Distributions on Features to Distributions on Images*
  —- J. M. Coughlan and A. L. Yuille, Smith-Kettlewell Eye Res. Inst.
- *From Markov Random Fields to Associative Memories and Back: Spin Glass Markov Random Fields*
  —- B. Caputo, and H. Niemann, University of Erlangen.

5:15-5:30PM Discussion and Taking Pictures

Workshop proceedings is published on web:

http://www.cis.ohio-state.edu/∼ szhu/SCTV2001.html