Gerald Dalley

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EDUCATION

Massachusetts Institute of Technology (MIT), Cambridge, MA
Ph.D. Computer Science, expected graduation in 2009
- Recipient of a 2002-2003 Presidential Fellowship.
- GPA: 5.0/5.0.
- Coursework areas of study:
  - Major: Computer Science
  - Minor: Cognitive Science
- Graduate Research Assistant, Sept. 2002—Present
  - Research focus on the intersection of visual tracking, object recognition, and machine learning.
  - Jointly designed and developed computer vision libraries in C++ and Matlab.

The Ohio State University (OSU), Columbus, OH
M.S. Electrical Engineering, August 2002
- Recipient of a 2000-2001 National Science Foundation Graduate Research Fellowship Honorable Mention.
- OSU Dean's Distinguished Fellowship recipient.
- Member of Tau Beta Pi.
- OSU, Graduate Research Associate, Sept. 2000—June 2002
  - Researched recognition of vehicles from highly cluttered multiple-view range image data.
  - Research laboratory network administrator for 28 PCs running Windows 2000, Windows NT, and Linux.

B.S. Computer Engineering, August 2000
- Graduated Summa Cum Laude and with distinction
- Member of Tau Beta Pi, Golden Key National Honors Society and Alpha Lambda Delta and Phi Eta Sigma honoraries.
- OSU, Undergraduate Research Associate, March 1999-August 2000
  - Developed software to test registration algorithms for aligning portions of 3D models from sensed range images.
  - Developed laboratory support software.

WORK EXPERIENCE

D. E. Shaw & Co., New York, NY
Intern, Summer 2008
- Analyzed statistical models for predicting the risk of financial instruments.
- Developed production code for risk modeling and analysis.

BAE Systems, Burlington, MA
Intern, Summer 2005
- Developed a geodetic reasoning library and portions of a rule-based activity understanding system.

Research Intern, Summer 2004
- Developed system for efficiently performing ad-hoc queries multiple-agent activities in long-term large-scale camera networks.
- Developed visualization and analysis tools for large-scale camera networks.

Mitsubishi Electric Research Labs, Cambridge, MA
Research Intern, Summer 2003
- Developed a training-based method for super-resolution of text images containing very large glyph sets, *e.g.* making fax-resolution scans of Kanji (Japanese) documents appear as if they were scanned at a higher resolution.

Microsoft Research, Microsoft Corp., Redmond, WA
Research Intern, Summer 2002
- Initiated development of a system for detecting and localizing people in group meeting settings using a monocular video.

Bell Labs, Lucent Technologies, Inc., Columbus, OH
GUI Developer, June 1998—March 2000 (every other quarter)
- Member of the Architecture sub-team for an advanced World Wide Web-centric user interface group.
- Performed applied architectural research in software internationalization and cross-team productivity enhancement.
- Designed, implemented, and maintained portions of the group's user interface library.
- Implemented user interfaces in Java and DHTML.

TEACHING

MIT Course: Structure and Interpretation of Computer Programs

Instructor, Spring 2007

- Taught recitation sections of 25-30 students, adapting problems and lesson plans from previous terms.
- Coordinated instruction with teaching assistants.

Teaching Assistant, Spring 2005

- Planned and taught weekly tutorials for 45 students, in groups of 4-6 students per section.
- Graded class projects and exams.

LEADERSHIP

- MIT Machine Vision Colloquium, Co-organizer, 2005—Present.
- Co-chaired the Housing and Community Affairs Committee and sat on the Executive Committee of the Graduate Student Council, 2006—2007. Major accomplishments include consulting with upper administration on on-campus housing finance and policy, negotiating expanded on-campus Cable TV service, and presenting 2007-2008 stipend recommendations to the Dean's Council.

PUBLICATIONS

- G. Dalley, J. Migdal, and W.E.L. Grimson. "Background Subtraction for Temporally Irregular Dynamic Textures", *Workshop on Applications of Computer Vision*. Jan. 2008.
- G. Dalley, X. Wang, and W.E.L. Grimson. "Event Detection using an Attention-Based Tracker", *Workshop on Performance Evaluation of Tracking Systems* at the *IEEE International Conference on Computer Vision*. Oral Presentation. Oct. 2007.
- G. Dalley, Tomáš Ižo. "Schematic Querying of Large Tracking Databases", *CSAIL Technical Report: MIT-CSAIL-TR-2006-043*, 12 June 2006.
- K. Tieu, G. Dalley, and W.E.L. Grimson. "Inference of Non-Overlapping Camera Network Topology by Measuring Statistical Dependence", *International Conference on Computer Vision*. Oral Presentation. Oct. 2005.
- G. Dalley, W. Freeman, and J. Marks. "Single-frame Text Super-resolution: A Bayesian Approach", *International Conference on Image Processing*. Oct. 2004.
- L. Lee, G. Dalley, and K. Tieu. "Learning Pedestrian Models for Silhouette Refinement", *International Conference on Computer Vision.* Oct. 2003. pp. 663—670.
- G. Dalley and P. Flynn. "Pair-wise Range Image Registration: A Study in Outlier Classification", *Computer Vision and Image Understanding.* Jan. 2003. pp. 104—115.
- G. Dalley. "Vehicle Recognition in Cluttered Environments". M.S. Thesis, The Ohio State University. June 2002.
- G. Dalley and P. Flynn. "Range Image Registration: A Software Platform and Empirical Evaluation". In *Proceedings of the 3rd International Conference on 3-D Digital Imaging and Modeling*. pp. 246—253, 2001.
- G. Dalley. "A Software Test-bed for the Registration of 3D Range Images". B.S. Thesis, The Ohio State University. August 2000.