Geremy Heitz

Phone (650) 804 – 5405
geremy@gmail.com
1020 Florence Ln #3
Menlo Park, CA   94025
http://ai.stanford.edu/~gaheitz

Research Interests	**Image processing, computer vision, and artificial intelligence**, with emphasis on applying robust statistical methods to a range of computer vision tasks. In particular: using large graphical models to perform learning and inference for discriminative and generative models of 2D and 3D image data.

Education

2002–present　　**Stanford University**　　　　　　　　　　　Stanford, CA
- Pursuing Ph.D. in Electrical Engineering.
- Specializing in Computer Vision and Artificial Intelligence methods.
- Master of Science in Electrical Engineering (Dec. 2003), 4.09 GPA.

1998–2002　　**Princeton University**　　　　　　　　　　　Princeton, NJ
- Bachelor of Science in Electrical Engineering (June 2002).
- Concentration in Signal Processing, Certificate in Applications of Computing.
- 3.95 GPA, High Honors.

Industry Experience

Vision Algorithms Scientist　　2007-present　　　　*Qylur Security Systems*　Palo Alto, CA
- Developed an automatic bag inspection system for detection of threats in bags using X-ray and chemical sensors.
- Researched improvements in segmentation of projection X-ray images.

Researcher　　　　　　　Summer 2006　　　　*Riya, Inc.*　　　San Mateo, CA
- Designed a prototype image clustering system for searching, browsing, and organizing image collections.
- Developed a text-based search to supplement an image-based search engine for the shopping website www.like.com.

Software Engineer　　　　Summer 2001　　　　*Trilogy Software*　　Austin, TX
- Created a sample user-interface application to demonstrate the capabilities of the Trilogy Contact Center system.
- Standardized the user-interface platform of the Contact Center application.

Programmer　　　　　　Summer 2000　　　　*Distrasoft LLC*　　McLean, VA
- Designed and implemented web-based software solutions using ASP, CGI, COM objects and C++ with Microsoft Foundation Classes.

Software Aide　　　　　Summers 1997-1999　　*Raytheon*　　　Falls Church, VA
- Developed software in conjunction with a Research and Development project into Interference Cancellation in Reconnaissance systems.

Research Experience

Research Assistant　　Fall 2004 - present　　　　*Stanford University*　Stanford, CA
- Explored the use of visual context to improve object detection and multiclass image segmentation.
- Studied object recognition methods in 2D and 3D.
- Utilized graphical models and probabilistic methods to learn and infer the presence of various objects in images.
- Investigated maximum-margin methods for joint classification of large sets of correlated data.

Research Assistant　　Fall 2003 - Summer 2004　　*Stanford University*　Stanford, CA
- Created statistical shape models from spinal CT images for the Department of Neurosurgery.

Teaching Experience

Course Assistant　　　Fall 2008　　　　　　*Stanford University*　Stanford, CA
- Computer Science 294a: Research Projects in Scene Understanding

Head Course Assistant　Winter 2007　　　　　*Stanford University*　Stanford, CA

Course Assistant　　　Winter 2006　　　　　*Stanford University*　Stanford, CA
- Computer Science 228: Probabilistic Models for Artificial Intelligence

Professional Experience	**Program Committee Member**	CVPR 2009 Workshop: Beyond Isolated Objects	Miami, FL
	Journal Reviewer	IEEE Transactions on Image Processing	

Awards and Honors

ECCV Best Paper Award, 2008
Stanford Graduate Fellowship, 2002-2005
Phi Beta Kappa, Tau Beta Pi, Princeton University, 2002
G. David Forney, Jr. Prize in Electrical Engineering, Princeton University, 2002

Skills

Computer Programming in C, C++, ASP, JSP, Perl and Java, knowledge of Unix/Linux, familiarity with Windows XP/Vista, experience with Matlab, VHDL, and knowledge of computer architecture.

Extracurricular Activities

SPOT Coordinator, Stanford Pre-Orientation Trips for incoming students
Coach, Foothill NJB Youth Basketball, 6th Grade All-Net
Science Fair Mentor, Eastside Prep School, East Palo Alto

References

Daphne Koller	**Gal Elidan**
Associate Professor of Computer Science	Assistant Professor of Statistics
Stanford University	Hebrew University, Jerusalem, Israel
koller@cs.stanford.edu	galel@cs.stanford.edu

Publications

JOURNAL PUBLICATIONS

- G. Chechik, G. Heitz, G. Elidan, P. Abbeel, D. Koller. **Max-Margin Classification of Data with Absent Features**. *Journal of Machine Learning Research (JMLR)*, 2008.

PUBLICATIONS in REFEREED CONFERENCES

- G. Heitz, S. Gould, A. Saxena, D. Koller. **CCMs: Cascaded Classification Models for Holistic Scene Understanding**. To appear in *Neural Information Processing Systems (NIPS)*, 2008.

- G. Heitz, G. Elidan, B. Packer, D. Koller. **LOOPS: Localizing Object Outlines using Probabilistic Shape**. To appear in *Neural Information Processing Systems (NIPS)*, 2008.

- G. Heitz, D. Koller. **Learning Spatial Context: Using Stuff to Find Things**. *European Conference on Computer Vision (ECCV)*, 2008. ****Best Paper Award Winner****

- G. Elidan, B. Packer, G. Heitz, D.Koller. **Convex Point Estimation using Undirected Bayesian Transfer Hierarchies**. *Uncertainty in Artificial Intelligence (UAI)*, 2008.

- G. Chechik, G. Heitz, G. Elidan, P. Abbeel, D. Koller. **Max-Margin Classification of Incomplete Data**. *Neural Information Processing Systems (NIPS)*, 2006.

- G. Elidan, G. Heitz, D. Koller. **Learning Object Shape: From Drawings to Images**. *Proceedings of Computer Vision and Pattern Recognition (CVPR)*, 2006.

- Anguelov, D., B. Taskar, V. Chatalbashev, D. Koller, D. Gupta, G. Heitz, A. Ng. **Discriminative Learning of Markov Random Fields for Segmentation of 3D Range Data**. Computer Vision and Pattern Recognition (CVPR), June 2005.

- Heitz, G., T. Rohlfing, and C.R. Maurer, Jr. **Automatic Generation of Statistical Shape Models Using Nonrigid Registration with a Single Segmented Template Mesh**. *Proceedings of Vision, Modeling, and Visualization 2004*.

PUBLICATIONS in NON-REFEREED CONFERENCES

- Heitz, G., T. Rohlfing, and C.R. Maurer, Jr. **Statistical Shape Model Generation using Nonrigid Deformation of a Template Mesh**. *Proceedings of SPIE Medical Imaging*, February 2005.

CONFERENCE/WORKSHOP PRESENTATIONS

- Heitz, G., G. Elidan, and D. Koller. **Transfer Learning of Object Classes: From Cartoons to Photographs**. NIPS 2005 Workshop, *Inductive Transfer: 10 Years Later*, December 2005.