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EDUCATIONAL BACKGROUND

Degree	Year	University	Field
Ph.D.	1995	Carnegie Mellon University Pittsburgh, PA, USA	Electrical and Computer Engineering
M.S.	1988	Carnegie Mellon University Pittsburgh, PA, USA	Electrical and Computer Engineering
B.S.	1986	Virginia Polytechnic Institute, Blacksburg, VA, USA	Electrical Engineering

EMPLOYMENT HISTORY

Title	Organization	Years
Director	Center for Behavior Imaging Georgia Institute of Technology, Atlanta, GA	2010-present
Professor	School of Interactive Computing Georgia Institute of Technology, Atlanta, GA	2010-present
Associate Director of Research	Center for Robotics and Intelligent Machines Georgia Institute of Technology, Atlanta, GA	2008-present
Visiting Professor	Dept. of Information Engineering University of Trento, Trento, Italy	Aug 2007 - May 2008
co-Director	Computational Perception Laboratory Georgia Institute of Technology, Atlanta, GA	2001-present
Associate Professor	College of Computing Georgia Institute of Technology, Atlanta, GA	2001-2010
Member of Technical Staff	Cambridge Research Laboratory Compaq Computer Corporation, Cambridge, MA	1995-2001
Project Leader Computer Vision	Cambridge Research Laboratory Compaq Computer Corporation, Cambridge, MA	1996-2001
Research Assistant	Robotics Institute Carnegie Mellon University, Pittsburgh, PA.	1989-1995
Research Intern	NEC Research Institute Princeton, NJ	Summer 1991

CURRENT FIELDS OF INTEREST

Computer Vision, Behavior Imaging, Robotics, Medical Imaging, Pattern Recognition, Machine Learning, Computer Graphics, Human-computer Interaction, Display Technologies

I. TEACHING

A. Courses Taught

Quarter/Year	Course Number & Title	Number of Students	Comments
College of Computing, Georgia Institute of Technology.			
Spring 2002	CS 7635 Computational Perception	31	New
Fall 2002	CS 4495/7495 Computer Vision	30	Revised
Spring 2003	CS 7636 Computational Perception	18	
Fall 2003	CS 4495/7495 Computer Vision	46	
Spring 2004	CS 7636 Computational Perception	24	
Spring 2004	CS 1371 Introduction to Computing for Engineers	122	
Spring 2005	CS 8803PGM Introduction to Probabilistic Graphical Models	35	New
Spring 2005	CS 1371 Introduction to Computing for Engineers	133	
Spring 2006	CS 4616 Pattern Recognition	21	New
Spring 2006	CS 4451 Computer Graphics	24	
Spring 2007	CS 4616 Pattern Recognition	12	Revised
Spring 2007	CS 8803PGM Introduction to Probabilistic Graphical Models	25	
Fall 2008	CS 4495/7495 Computer Vision	45	Revised
Fall 2008	CS 4616 Pattern Recognition	32	
Spring 2009	CS 3803H Introduction to Mobile Robotics	25	New (co-taught)
Fall 2009	CS 4495/7495 Computer Vision	43	
Spring 2010	CS 8803PGM Introduction to Probabilistic Graphical Models	30	Revised
Fall 2010	CS 4495/7495 Computer Vision	70	
Spring 2011	CS 8803BHI Introduction to Behavior Imaging	20	New
Fall 2011	CS 8803PGM Introduction to Probabilistic Graphical Models	27	
Seminars			
Spring 2002	CS 8001CPL Computational Perception Seminar	25	New (co-taught)
Fall 2002	CS 8001CPR Computational Perception and Robotics Seminar	26	co-taught
Fall 2003	CS 8001IPR Intelligence, Perception, and Robotics Seminar	32	co-taught

B. Curriculum Development

CS 7635 Computational Perception (Spring 2002): A new graduate course in sensing and modeling people using video and audio. The formalism of graphical models is used to unify the treatment of a variety of statistical modeling techniques. Problems sets and a final project provide hands-on experience in face recognition, motion modeling, etc.

CS 4495/7495 Computer Vision (Fall 2002): Introductory undergraduate and graduate course in computer vision. Updated curriculum to follow new textbook *Computer Vision: A Modern Approach* by Forsyth and Ponce, Prentice-Hall, 2002.

CS 8001F Computational Perception Seminar (Spring 2002): Co-organized with Prof. Frank Dellaert (CoC). Started a new seminar series to provide a weekly forum for researchers in vision, HCI, and graphics to give talks.

CS 8803PGM Introduction to Probabilistic Graphical Models (Spring 2005): A new graduate course in probabilistic graphical models. Used draft copies of the texts *Bayesian Networks and Beyond* by Koller and Friedman and *Introduction to Probabilistic Graphical Models* by Jordan.

CS 4616 Pattern Recognition (Spring 2006): A new undergraduate course providing an introduction to pattern recognition theory and practice. Based on the standard text by Duda, Hart, and Stork.

CS 4616 Pattern Recognition (Spring 2007): Undergraduate course providing an introduction to pattern recognition theory and practice. Updated curriculum to follow the new text *Pattern Recognition and Machine Learning* by Christopher Bishop, Springer, 2006.

CS 4495/7495 Computer Vision (Fall 2008): Introductory undergraduate and graduate course in computer vision. Updated curriculum to follow new textbook *Computer Vision: Algorithms and Applications* by Szeliski, Springer, 2010. Course was taught initially using early drafts of the text.

CS 3803H Introduction to Mobile Robotics (Spring 2009): A new undergraduate course in the Honors Program, providing a hands-on introduction to mobile robotics. Co-taught with Prof. Henrik Christensen (CoC).

CS 8803PGM Introduction to Probabilistic Graphical Models (Spring 2010): Graduate course in probabilistic graphical models. Updated curriculum to follow the new textbook *Probabilistic Graphical Models: Principles and Techniques* by D. Koller and N. Friedman, MIT Press, 2010. Also incorporated material from the review article “Graphical Models, Exponential Families, and Variational Inference,” in *Foundations and Trends in Machine Learning*, 1(1-2):1-305, by M. Wainwright and M. Jordan.

CS 8803BHI Introduction to Behavior Imaging (Spring 2011): Introductory course in computational methods for capturing, analyzing, and visualizing social and communicative behaviors from multi-modal sensor data. Course syllabus includes sensing technologies such as vision, audition, and wearable sensing, integrated with a review of the psychological literature on autism.

C. Individual Student Guidance

Ph.D. Students Supervised: In Process

Ahmad Humayan (CoC)

Aug 2011 - present

Project is object segmentation and tracking in video using combinatoric optimization

Abhijit Kundu (CoC)

Aug 2011 - present

Project is dynamic scene understanding for high-speed autonomous navigation

Yin Li (CoC)

Aug 2011 - present

Project is semi-supervised object learning from first person video and gaze

Arridhana Ciptadi (CoC)

Aug 2010 - present

Project is content-based retrieval of social behaviors from unstructured data repositories

Alireza Fathi (CoC)

Aug 2009 - present

Publications: *E.2.2, E.2.3, E.2.4*

Project is egocentric vision for behavior imaging

Tucker Hermans (CoC, with A. Bobick)

Aug 2009 - present

Publications: E.2.7
Project is categorical learning for robot affordance prediction

Karthik Prabhakar (CoC, with G. Abowd)
Aug 2009 - present
Publications: E.2.10
Project is temporal analysis of social interactions

David Tsai (CoC)
Aug 2009 - present
Publications: B.0.1, E.2.1, E.2.8
Project is segmentation of animals from video for biology applications

Yu-Ying Liu (CoC)
Aug 2008 - present
Publications: B.0.2, B.0.5, E.2.9, E.4.2
Project is categorization of retinal pathologies in OCT imagery

Ph.D. Students Supervised: Graduated

Zhen Hao (Howard) Zhou (CoC)
Aug 2002 - Sept 2010
Publications: E.2.7, E.2.12, E.2.16, E.2.21, E.2.23, B.0.13
Dissertation: An Exemplar-based Approach to Search-Assisted Computer-Aided Diagnosis of Pigmented Skin Lesions
Currently a Software Engineer at Google, Inc.

Matthew Flagg (CoC)
Aug 2004 - Aug 2010
Publications: B.0.1, E.2.8, E.3.1, E.2.18, B.0.12, E.4.4, E.2.27, E.2.28, E.3.3, E.1.1, E.2.40, E.2.45, E.3.6
Dissertation: Capture, Analysis and Synthesis of Photorealistic Crowds
Currently a Computer Vision Research Engineer with Photometria, Inc.

Ping Wang (CoC, with Prof. G. Abowd)
Aug 2002 - Mar 2010
Publications: E.2.10, E.4.1, E.2.13, E.4.3, E.2.26, E.2.29
Dissertation: Social Game Retrieval from Unstructured Videos
Currently a Research Scientist at ObjectVideo, Inc.

Jianxin Wu (CoC)
Aug 2002 - June 2009
Publications: B.0.4, B.0.6, E.2.5, E.2.14, E.2.15, B.0.9, B.0.10, E.2.20, E.2.24, E.2.36, C.1.1, E.2.43, E.3.7, F.1.4
Dissertation: Visual Place Categorization
Currently an Assistant Professor at Nanyang Technological University in Singapore

Sang Min Oh (CoC, with Prof. F. Dellaert)
Aug 2004 - May 2009
Publications: B.0.11, E.2.25, E.2.32, E.2.30, E.2.33, E.2.34, F.1.2
Dissertation: Switching Linear Dynamic Systems with Higher-Order Temporal Structure
Currently Member of Research Staff at Kitware, Inc.

Jie Sun (CoC, with Prof. A. Bobick)
Aug 2002 - May 2008
Publications: B.0.7, B.0.10, B.0.14, B.0.13, E.2.32, C.1.1, E.2.41

Dissertation: Object Categorization for Affordance Prediction
Currently an analyst for Nomura Ltd. in Hong Kong.

Jay Summet (CoC, with Prof. G. Abowd)

Sept 2001 - Dec 2007

Publications: *E.3.3, E.3.6, E.1.1, E.2.38, F.1.6*

Dissertation: Virtual Rear Projection: Improving the User Experience with Multiple Redundant Projectors

Currently an instructor at Georgia Tech and a member of the Institute for Personal Robotics in Education.

Jim Bowring (CoC, with Prof. Mary Jean Harrold)

June 2003 - Dec 2006

Publications: *F.1.3, E.2.39, E.3.4, F.1.5*

Dissertation: Modeling and Predicting Software Behavior

Currently a Visiting Assistant Professor at the College of Charleston, Charleston, SC.

M.S. Thesis Students Supervised

Rahul Ashok (CoC)

Aug 2011 - present

Research on high-speed autonomous navigation

Brian Goldfain (CoC)

Aug 2011 - present

Research on high-speed autonomous navigation

Taeyoung Kim (CoC)

Jan 2012 - present

Research on video object tracking and segmentation based on combinatoric optimization

Stephen Motter (CoC)

Aug 2011 - present

Research on multi-target tracking for social insect behavior analysis

Venkat Ramamurthy (CoC)

Jan 2012 - present

Research on multi-view activity retrieval

Asmita Karandikar (CoC)

Aug 2009 - Dec 2010

Publications: *E.2.7*

Research on genre categorization of movie trailers

Priyal Mehta (CoC)

Aug 2009 - Dec 2010

Publications: *B.0.3, E.2.11*

Research on automated detection of dressing failures in assessment of activities of daily living

Christopher Skeels (CoC)

Fall 2005 - Aug 2007

Publications: *E.4.4, E.3.1*

Research on projector-assisted sculpting.

Dong Shin Kim (CoC)

Jan 2004 - Aug 2007

Publications: *E.2.25, E.2.32*

Research on learning traversability for UGV navigation.

Currently an engineer at Samsung TECHWIN in S. Korea

Adebola Osentogun (CoC)

Aug 2005 - May 2007

Publications: *E.2.24*

Project on scalable recognition of activities and objects.

Currently working in the Atlanta area.

Qiushuang Zhang (CoC)

Aug 2005 - May 2007

Publications: *E.2.18*

Research on example-based synthesis from video and motion capture data.

Currently an Associate Product Manager at Google.

Woo Young Kim (CoC)

Jan 2004 - May 2007

Publications: *E.2.19*

Research on motion epitomes.

Currently a Ph.D. candidate at Georgia State Univ.

Yushi Jing (CoC)

June 2003 - Dec 2005

Publications: *B.0.8, E.2.35, F.1.1*

Research on boosting of Bayesian network classifiers.

Currently a Senior Member of Research Staff at Google Research in Mountain View, CA.

Xuehai Bian (CoC, with Professor G. Abowd)

Aug 2002 - May 2005

Publications: *E.2.37*

Research on analysis of audio-visual events using spatially-distributed sensors.

Currently a software engineer at Microsoft.

Matthew Flagg (CoC)

Fall 2002 - Spring 2004

Publications: *E.2.40, E.2.45, E.3.6*

Research on projector-camera systems.

Successfully defended his Ph.D. at Georgia Tech.

Hugh Alton Patrick (CoC)

Jan 2003 - Nov 2004

Publications: *B.0.15*

Masters Thesis: An Empirical Evaluation of Human Figure Tracking Using Switching Linear Models

Currently a Member of Research Staff at the David Sarnoff Labs in Princeton, NJ.

Yavor Angelov (CoC, with Professor U. Ramachandran)

Aug 2001 - Dec 2002

Publications: *B.0.17, B.0.16*

Research on performance evaluation of Stampede.NET.

Currently a Product Manager at Microsoft.

Daniel Sternberg (CoC)

Fall 2002 - Spring 2004.

Research on learning human motion models from motion capture data.

Currently a software engineer at The Mathworks in Natick, MA.

II. RESEARCH AND CREATIVE SCHOLARSHIP

A. Thesis

M.S. Thesis

Title: “Computer-Aided Synthesis of Routine Designs”

Date Completed: May 1988

Advisors: Prof. Sarosh Talukdar

University: Carnegie Mellon University

Ph.D. Thesis

Title: “Visual Analysis of High DOF Articulated Objects with Application to Hand Tracking”

Date Completed: May 1995

Advisor: Prof. Takeo Kanade

University: Carnegie Mellon University

B. Journal Papers

- B.0.1 D. Tsai, M. Flagg, A. Nakazawa, and J. M. Rehg. Motion Coherent Tracking Using Multi-label MRF Optimization. To appear in *International Journal of Computer Vision*, 2012. In press.
- B.0.2 Y.-Y. Liu, H. Ishikawa, M. Chen, G. Wollstein, J. S. Duker, J. G. Fujimoto, J. S. Schuman, and J. M. Rehg. Computerized Macular Pathology Diagnosis in Spectral Domain Optical Coherence Tomography Scans Based on Multiscale Texture and Shape Features. To appear in *Investigative Ophthalmology and Visual Science*, 2012. In press.
- B.0.3 A. Matic, P. Mehta, J. M. Rehg, V. Osmani, and O. Mayora. Monitoring Dressing Activity Failures through RFID and Video. In *Methods of Information in Medicine*, 51(1):45-54, 2012.
- B.0.4 J. Wu, W.-C. Tan, and J. M. Rehg. Efficient and Effective Visual Codebook Generation Using Additive Kernels. In *Journal of Machine Learning Research*, 12(Nov):3097-3118, 2011.
- B.0.5 Y.-Y. Liu, M. Chen, H. Ishikawa, G. Wollstein, J. S. Schuman, and J. M. Rehg. Automated Macular Pathology Diagnosis in Retinal OCT Images using Multi-scale Spatial Pyramid and Local Binary Patterns in Texture and Shape Encoding. In *Medical Image Analysis*, 15(5):748-759, 2011. Special issue on the 2010 Conference on Medical Image Computing and Computer-Assisted Intervention.
- B.0.6 J. Wu and J. M. Rehg. CENTRIST: A Visual Descriptor for Scene Categorization. In *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 33(8):1489-1501, 2011.
- B.0.7 J. Sun, J. L. Moore, A. Bobick, and J. M. Rehg. Learning Visual Object Categories for Robot Affordance Prediction. In *International Journal of Robotics Research*, 29(2-3):174-197, Feb/Mar 2010.
- B.0.8 Y. Jing, V. Pavlović, and J. M. Rehg. Boosted Bayesian Network Classifiers. In *Machine Learning*, 73(2):155-184, November, 2008.
- B.0.9 J. Wu, M. D. Mullin, and J. M. Rehg. Fast Asymmetric Learning for Cascade Face Detection. In *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 20(3):369-382, 2008.
- B.0.10 S. C. Brubaker, J. Wu, J. Sun, M. D. Mullin, and J. M. Rehg. On the Design of Cascades of Boosted Ensembles for Face Detection. In *International Journal of Computer Vision*, 77(1-3):65-86, May, 2008. Special Issue on Learning for Vision.
- B.0.11 S. M. Oh, J. M. Rehg, T. Balch, and F. Dellaert. Learning and Inferring Motion Patterns using Parametric Segmental Switching Linear Dynamic Systems. In *International Journal of Computer Vision*, 77(1-3):103-124, May, 2008. Special Issue on Learning for Vision.

- B.0.12 J. Summet, M. Flagg, T.-J. Cham, J. M. Rehg, and R. Sukthankar. Shadow Elimination and Blinding Light Suppression for Interactive Projected Displays. In *IEEE Transactions on Visualization and Computer Graphics*, 13(3):508-517, May/June 2007.
- B.0.13 H. Zhou, J. Sun, G. Turk, and J. M. Rehg. Terrain Synthesis from Digital Elevation Models. In *IEEE Transactions on Visualization and Computer Graphics*, 13(4):834-848, July/August 2007.
- B.0.14 J. Sun, T. Mehta, D. Wooden, M. Powers, J. M. Rehg, T. Balch, and M. Egerstedt. Learning from Examples in Unstructured Outdoor Environments. In *Journal of Field Robotics*, 23(11-12):1019-1036, Jan 2007.
- B.0.15 L. Ren, A. Patrick, A. Efros, J. Hodgins, and J. M. Rehg. A Data-Driven Approach to Quantifying Natural Human Motion. *ACM Transactions on Graphics*, Special Issue: Proceedings of the 2005 SIGGRAPH Conference, 24(3):1090-1097, August, 2005.
- B.0.16 Y. Angelov, U. Ramachandran, K. Mackenzie, J. M. Rehg, and I. Essa. Experiences with Optimizing Two Stream-Based Applications for Cluster Execution. *Journal of Parallel and Distributed Computing*, 65(6):678-691, June, 2005.
- B.0.17 U. Ramachandran, R. S. Nikhil, J. M. Rehg, Y. Angelov, A. Paul, S. Adhikari, K. Mackenzie, N. Harel, and K. Knobe. Stampede: A cluster programming middleware for interactive stream-oriented applications. *IEEE Transactions on Parallel and Distributed Systems*, 14(11):1140-1154, November 2003.
- B.0.18 V. Pavlović, A. Garg, and J. M. Rehg. Boosted learning in dynamic Bayesian networks for multimodal speaker detection. *Proceedings of the IEEE*, 91(9):1355-1369, September 2003.
- B.0.19 J. M. Rehg, D. D. Morris, and T. Kanade. Ambiguities in visual tracking of articulated objects using 2-D and 3-D models. *International Journal of Robotics Research*, 22(6):393-418, June 2003.
- B.0.20 M. J. Jones and J. M. Rehg. Statistical color models with application to skin detection. *International Journal of Computer Vision*, 46(1):81-96, Jan 2002.
- B.0.21 J. M. Rehg, K. Knobe, U. Ramachandran, R. S. Nikhil, and A. Chauhan. Integrated task and data parallel support for dynamic applications. *Scientific Programming*, 7(3-4):289-302, 1999. Invited paper, selected from 1998 Workshop on Languages, Compilers, and Run-Time Systems.
- B.0.22 I. J. Cox, J. M. Rehg, and S. Hingorami. A Bayesian multiple hypothesis approach to edge grouping and contour segmentation. *International Journal of Computer Vision*, 11(1):5-24, 1993.

C. Books and Parts of Books

C.1. Book Chapters

- C.1.1 S. C. Brubaker, J. Wu, J. Sun, M. D. Mullin, and J. M. Rehg. Towards the Optimal Training of Cascade of Boosted Ensembles Classifiers. In J. Ponce et. al., editors, *Progress in Category-Level Object Recognition*, Springer-Verlag, 2006.
- C.1.2 K. Waters, J. M. Rehg, M. Loughlin, S. B. Kang, and D. Terzopoulos. Visual sensing of humans for active public interfaces. In R. Cipolla and A. Pentland, editors, *Computer Vision for Human-Machine Interaction*, pages 83-96. Cambridge University Press, 1998.
- C.1.3 J. Rehg, A. Elfes, S. Talukdar, R. Woodbury, M. Eisenberger, and R. H. Edahl. Design systems integration in CASE. In M. D. Rychener, editor, *Expert Systems For Engineering Design*, pages 279-301. Academic Press, Inc., 1988.

D. Edited Proceedings and Collections

- D.0.1 *Proceedings of First IEEE Workshop on Projector-Camera Systems (PROCAMS 2003)* (Program Co-Chair), Nice, France. IEEE Computer Society. October, 2003.
- D.0.2 *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Special Issue on Graphical Models in Computer Vision, (Guest Editor), IEEE Computer Society. July, 2003.
- D.0.3 *Proceedings of IEEE Workshop on Models versus Exemplars in Computer Vision* (Program Co-Chair), Kauai, Hawaii, USA. IEEE Computer Society. December, 2001.

E. Conference and Workshop Publications

E.1. Invited Papers

- E.1.1 J. W. Summet, M. Flagg, M. Ashdown, R. Sukthankar, J. M. Rehg, G. D. Abowd, T.-J. Cham. Robust Projected Displays for Ubiquitous Computing. In *Proc. Workshop on Ubiquitous Display Environments* (Held in conjunction with *Ubicomp 2004*), Nottingham UK, September 2004.
- E.1.2 J. M. Rehg. Motion capture from movies. In *Proceedings of Asian Conference on Computer Vision*, volume II, pages 1125-1131, Taipei, Taiwan, Jan 2000.
- E.1.3 J. M. Rehg, S. B. Kang, and T.-J. Cham. Video editing using figure tracking and image-based rendering. In *International Conference on Image Processing*, Vancouver, B.C., Sept. 2000.

E.2. Refereed Conference Publications

ICCV, CVPR, and ECCV are the top three computer vision conferences with an overall acceptance rate of around 25%. The selection of papers for oral presentation is merit-based with an acceptance rate of 4-5%. No distinction is made in the proceedings between oral and poster. I have provided detailed acceptance rate information for recent publications.

- E.2.1 D. Tsai, Y. Jing, Y. Liu, H. A. Rowley, S. Ioffe, and J. M. Rehg. Large-Scale Image Annotation using Visual Synset. In *International Conference on Computer Vision (ICCV 11)*, Barcelona, Spain, Nov 2011. [poster, 26% acceptance rate]
- E.2.2 A. Fathi, A. Farhadi, and J. M. Rehg. Understanding Egocentric Activities. In *International Conference on Computer Vision (ICCV 11)*, Barcelona, Spain, Nov 2011. [poster, 26% acceptance rate]
- E.2.3 A. Fathi, M. F. Balcan, X. Ren, and J. M. Rehg. Combining Self Training and Active Learning for Video Segmentation. In *British Machine Vision Conference (BMVC 11)*, 8 pages, Dundee, Scotland, UK, Sept 2011. [poster, 32% acceptance rate]
- E.2.4 A. Fathi, X. Ren, and J. M. Rehg. Learning to Recognize Objects in Egocentric Activities. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR 11)*, 8 pages, Colorado Springs, CO, June 2011. [poster, 23% acceptance rate]
- E.2.5 J. Wu, C. Geyer, and J. M. Rehg. Real-Time Human Detection Using Contour Cues. In *Proc. IEEE Intl. Conf. on Robotics and Automation (ICRA 11)*, pages 860-867, Shanghai, China, May 2011.
- E.2.6 M. J. Schuster, J. K. Okerman, H. Nguyen, J. M. Rehg, and C. Kemp. Perceiving Clutter and Surfaces for Object Placement in Indoor Environments. In *Proc. of IEEE-RAS International Conference on Humanoid Robotics (HUMANOIDS 10)*, 8 pages, Nashville, TN, Dec 2010. [poster]
- E.2.7 H. Zhou, T. Hermans, A. Karandikar, and J. M. Rehg. Movie Genre Classification via Scene Categorization. In *Proc. of ACM Multimedia*, 4 pages, Florence, Italy, Oct 2010. [short paper, 32% acceptance rate]

- E.2.8 D. Tsai, M. Flagg, and J. M. Rehg. Motion Coherent Tracking with Multi-label MRF Optimization. In *British Machine Vision Conference (BMVC 10)*, 8 pages, Aberystwyth, UK, Sept 2010. **Recipient of Best Student Paper Prize.**
- E.2.9 Y.-Y. Liu, M. Chen, H. Ishikawa, G. Wollstein, J. Schuman, and J. M. Rehg. Automated Macular Pathology Diagnosis in Retinal OCT Images Using Multi-Scale Spatial Pyramid with Local Binary Patterns. In *13th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 10)*, 8 pages, Beijing, China, Sept 2010. **Finalist for Best Paper Award** [oral, 5.7% acceptance rate]
- E.2.10 K. Prabhakar, S. Oh, P. Wang, G. D. Abowd, and J. M. Rehg. Temporal Causality for the Analysis of Visual Events. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR 10)*, 8 pages, San Francisco, CA, June 2010. [oral, 4.5% acceptance rate]
- E.2.11 A. Matic, P. Mehta, J. M. Rehg, V. Osmani, and O. Mayora. AID-ME: Automatic Identification of Dressing failures through Monitoring of patients and activity Evaluation. In *4th International ICST Conference on Pervasive Computing Technologies for Healthcare (Pervasive Health 10)*, 8 pages, Munich, Germany, March 2010. **Finalist for Best Paper Award.** [oral, 31% acceptance rate]
- E.2.12 H. Zhou, J. M. Rehg, and M. Chen. Exemplar-based Segmentation of Pigmented Skin Lesions from Dermoscopy Images. In *Intl. Symposium on Biomedical Imaging (ISBI 10)*, 4 pages, Rotterdam, The Netherlands, April 2010. [poster, 45% acceptance rate]
- E.2.13 P. Wang, G. D. Abowd, and J. M. Rehg. Quasi-Periodic Event Analysis for Video Retrieval. In *International Conference on Computer Vision (ICCV 09)*, Kyoto, Japan, Sept 2009. [oral presentation, 3.6% acceptance rate]
- E.2.14 J. Wu and J. M. Rehg. Beyond the Euclidean Distance: Effective Codebook Learning Using the Histogram Intersection Kernel. In *International Conference on Computer Vision (ICCV 09)*, Kyoto, Japan, Sept 2009. [poster, 20% acceptance rate]
- E.2.15 J. Wu, H. Christensen, and J. M. Rehg. Visual Place Categorization: Problem, Dataset, and Results. In *IEEE/RSJ Intl. Conf. on Intelligent Robots and Systems (IROS 09)*, St. Louis, MO, Oct 2009. [54% acceptance rate]
- E.2.16 H. Zhou, M. Chen, and J. M. Rehg. Dermoscopic Interest Point Detector and Descriptor. In *Intl. Symposium on Biomedical Imaging (ISBI 09)*, 4 pages, Boston, MA, July 2009. [oral, 32% acceptance rate]
- E.2.17 P. Yin, T. Starner, H. Hamilton, I. Essa, and J. M. Rehg. Learning Basic Units in American Sign Language Using Discriminative Segmental Feature Selection. In *IEEE Conference on Acoustics, Speech, and Signal Processing (ICASSP 09)*, Apr 2009. [49% acceptance rate]
- E.2.18 M. Flagg, A. Nakazawa, Q. Zhang, S. B. Kang, Y. K. Ryu, I. Essa, and J. M. Rehg. Human Video Textures. In *Symposium on 3D Graphics and Games (I3D)*, pages 199-206, Boston MA, Feb 2009. [oral, 32% acceptance rate]
- E.2.19 W. Kim and J. M. Rehg. Detection of Unnatural Movement Using Epitomic Analysis. In *Intl. Conf. on Machine Learning and Applications (ICMLA 08)*, pages 271-276, San Diego, CA, Dec. 2008. [oral, 32% acceptance rate]
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- F.2.21 T.-J. Cham and J. M. Rehg. Multiple mode probability density estimation with application to sequential markovian decision processes. U.S. Patent 6,226,409. May 1, 2001.
- F.2.22 U. Ramachandran, R. H. Halstead Jr., C. F. Joerg, L. Kontothanassis, R. S. Nikhil, and J. M. Rehg. Space-time Memory. U.S. Patent 6,067,604. May 23, 2000.
- F.2.23 J. M. Rehg and H. A. Rowley. Method for the Detection of Human Body Motion in Frames of a Video Sequence. U.S. Patent 5,930,379. July 27, 1999.

G. Research Proposals and Grants (Investigator)

G.1. Awarded

Total funding awarded since August, 2001: \$25,103,100

Georgia Tech portion of awarded funds: \$13,091,600

1. **Understanding Social Behaviors**
 Sponsor: Intel Science and Technology Center on Pervasive Computing
 Investigator(s): J. M. Rehg (PI)
 Amount: \$700,000 gift over 5 years
 Submitted: June, 2011. Funded: Sept, 2011
2. **Resource-Aware Scene Analysis**
 Sponsor: Intel Science and Technology Center on Embedded Computing
 Investigator(s): J. M. Rehg (PI)
 Amount: \$500,000 gift over 5 years
 Submitted: June, 2011. Funded: Sept, 2011
3. **Audio-Visual Analysis for Psychiatric Telemedicine**
 Sponsor: 2011 Georgia Tech Broadband Institute Research Program
 Investigator(s): J. M. Rehg (PI)
 Amount: Support for a Ph.D. student for one year
 Submitted and funded: Jan 2011
4. **Temporal Causality for Video Event Analysis**
 Sponsor: National Science Foundation, Robust Intelligence Program, Small Proposal
 Investigator(s): J. M. Rehg (PI)
 Amount: \$450,000 over 3 years
 Submitted: Dec 2009. Funded: Sept 2010.
5. **Amygdala Sex Differences in Behavior Cognition and Neuroendocrine Development**
 Sponsor: NIH NOT-OD-10-032 Recovery Act Program, competitive revision of R01-MH050268
 Investigator(s): K. Wallen (PI, Emory), T. Balch, I. Essa, and J. M. Rehg
 Amount: \$277,500 over 1 year
 Submitted: Mar 2010. Funded: Sept 2010
6. **Behavior Imaging: Enabling a Quantitative Science of Behavior through Computational Sensing**
 Sponsor: National Science Foundation, Expeditions in Computing Program
 Investigator(s): J. M. Rehg (PI), G. Abowd, M. Clements (ECE), M. Goodwin (MIT), R. Picard (MIT), R. El-Kaliouby (MIT), T. Kanade (CMU), A. Dey (CMU), D. Forsyth (UIUC), K. Karahalios (UIUC), S. Narayanan (USC), S. Lee (USC), S. Sclaroff (BU)
 Amount: \$10 million (GT portion \$3.4 million) over 5 years
 Preproposal submitted: Sept, 2009. Full proposal submitted: Feb 2010. Reverse site visit: June 2010.
 Funded: Aug 2010.

7. **Neuro-Inspired Adaptive Perception and Control for Agile Mobility of Autonomous Vehicles in Uncertain and Hostile Environments**
 Sponsor: ARO MURI Program
 Investigator(s): P. Tsiotras (PI, AE), F. Dellaert, E. Feron (AE), E. Frazzoli (MIT), K. Iagnemma (MIT), L. Itti (USC), and J. M. Rehg
 Amount: \$6.2 million (GT School of IC portion \$1.7 million) over five years
 White paper submitted: Jan 2010. Full proposal submitted: Mar 2010. Funded: July 2010.
8. **Automating the Large-Scale Measurement of Insect Behavior**
 Sponsor: National Science Foundation, ABI Program
 Investigator(s): J. M. Rehg (PI), T. Balch, S. Pratt (Arizona State Univ., School of Life Sciences)
 Amount: \$1 million (GT portion \$785,000) over 3 years
 Submitted: August, 2009. Funded: May, 2010.
9. **Assistive Mobile Manipulation for Older Adults at Home**
 Sponsor: Willow Garage PR2 Beta Program
 Investigator(s): C. Kemp (PI, BME), J. M. Rehg, W. Rogers (Psychology), A. Thomaz
 Amount: Use of a PR2 Robot for two years
 Submitted: Mar 2010. Funded: May 2010.
10. **PerSEAS: Persistent Stare Exploitation and Analysis System**
 Sponsor: DARPA PerSEAS Program
 Investigator(s): I. Essa (PI), J. M. Rehg
 Amount: GT portion \$700,000 (year one budget)
 Submitted: Dec, 2009. Funded: Apr, 2010
11. **Learning Statistical Models of Clutter for Manipulation in Human Environments**
 Sponsor: RIM@GT Seed Grant Program
 Investigator(s): J. M. Rehg (PI) and C. C. Kemp (BME)
 Amount: \$25,000 over 1 year
 Submitted and Funded: Oct, 2009
12. **Category-Driven Affordance Prediction for Autonomous Robots**
 Sponsor: National Science Foundation, Robust Intelligence Program, Small proposal, 2009
 Investigator(s): A. Bobick (PI) and J. M. Rehg
 Amount: \$450,000 over 3 years
 Submitted: Dec, 2008. Funded: June, 2009
13. **Toward Categorizing Videos Using Tracking and Scene Characterization**
 Sponsor: Google Research Awards Program
 Investigator(s): J. M. Rehg
 Amount: \$60,000 gift
 Submitted: Dec, 2008. Funded: Mar, 2009
14. **Analysis and Matching of Ophthalmology Images**
 Sponsor: Intel Pittsburgh Research Lab, OCR Program
 Investigator(s): J. M. Rehg
 Amount: \$40,000 gift
 Submitted and Funded: Nov, 2008
15. **DC-ATR: Pedestrian Detection from a UGV**
 Sponsor: ONR STTR Program, subcontract to iRobot
 Investigator(s): J. M. Rehg
 Amount: \$185,000 over 18 months
 Submitted: Sept, 2008. Funded Oct, 2008.

16. **Visual Object Categorization**
Sponsor: Microsoft Research
Investigator(s): J. M. Rehg
Amount: \$40,000
Submitted and Funded: Oct, 2007
17. **Projected Displays for Interactive Interfaces**
Sponsor: Create-Net Research Program, Trento, Italy
Investigator(s): J. M. Rehg (PI) and G. Abowd
Amount: \$61,583 over 1 year
Submitted: Sept, 2006. Funded: Nov, 2006
18. **Ganga: Removing the Semantic Gap between Stream-based Applications and Stream Accelerators**
Sponsor: National Science Foundation, DCS Program
Investigator(s): U. Ramachandran (PI), J. M. Rehg, K. Knobe (HP Labs), K. M. Mackenzie (Reservoir Labs)
Amount: \$450,000 over 3 years
Submitted: July, 2005. Funded: December, 2005.
19. **Creating Dynamic Social Network Models from Sensor Data**
Sponsor: National Science Foundation, Human and Social Dynamics (HSD) Program
Investigator(s): H. Kautz (PI, U. Washington), D. Fox (U. Washington), J. M. Rehg, J. A. Kitts (U. Washington)
Amount: \$749,476 over 3 years
Submitted: March, 2004. Funded: July, 2004.
20. **Learning Perception, Controllers, and Visual Feature Graphs for Ground Robots**
Sponsor: DARPA Learning Applied to Ground Robots (LAGR) Program
Investigator(s): T. Balch (PI), F. Dellaert, M. Egerstedt, and J. M. Rehg
Amount: \$1,500,000 over 3 years
Submitted: June, 2004. Funded: August, 2004.
21. **Distributed Ubiquitous Displays**
Sponsor: GTBI Research Program
Investigator(s): J. M. Rehg (PI) and U. Ramachandran
Amount: \$50,000 over 2 years
Submitted: Feb, 2002. Funded: July, 2002. Renewed: July, 2003.
22. **Analysis of Complex Audio-Visual Events Using Spatially Distributed Sensors**
Sponsor: National Science Foundation, ITR 2002 Program
Investigator(s): J. M. Rehg (PI), M. S. Brandstein (Harvard), and I. Essa
Amount: \$ 1,049,905 over 5 years
Submitted: November, 2001. Funded: May, 2002.
23. **Visual Object Detection**
Sponsor: Mitsubishi Electric Research
Investigator(s): J. M. Rehg
Amount: \$30,000
Funded through the GVU Affiliates Program, 2002.
24. **Stampede.NET - Networked Sensors and Displays for Distributed Telepresence**
Sponsor: Microsoft Research, .NET program
Investigator(s): U. Ramachandran (PI) and J. M. Rehg
Amount: \$ 200,000 over 2 years
Submitted: October, 2001. Funded: December, 2001.

25. **Motion Capture from Movies: Video-Based Tracking and Modeling of Human Motion**
Sponsor: National Science Foundation, CAREER Program
Investigator(s): J. M. Rehg
Amount: \$ 370,000 over 5 years (\$ 16,000 matching from GT)
Submitted: July, 2001. Funded: November, 2001.

H. Research Honors and Awards

- Senior Faculty Distinguished Research Award, Georgia Institute of Technology, 2011.
- Co-recipient, with D. Tsai and M. Flagg, Best Student Paper Prize, *British Machine Vision Conference*, Aberystwyth, UK 2010.
- Finalist for Best Paper Award, with Y.-Y. Liu, M. Chen, H. Ishikawa, G. Wollstein, and J. Schuman. *13th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 10)*, Beijing, China 2010.
- Finalist for Best Paper Award, with A. Matic, P. Mehta, V. Osmani, and O. Mayora, *4th International ICST Conference on Pervasive Computing Technologies for Healthcare (Pervasive Health 10)*, Munich, Germany 2010.
- Raytheon Research Fellowship, Georgia Institute of Technology, 2005.
- Co-recipient, with Y. Jing and V. Pavlović, Distinguished Student Paper Award, *International Conference on Machine Learning*, Bonn, Germany 2005
- CAREER Award, National Science Foundation, 2001.
- Inventor Recognition Award, Digital Equipment Corporation, 1997.
- GSRP Research Fellowship, NASA, 1990-1994.
- General Electric Award, Carnegie Mellon University, 1988-1990.

III. SERVICE

A. Professional Activities

A.1. Memberships and Activities in Professional Societies

- Associate Member, Institute of Electrical and Electronics Engineers (IEEE).
- Associate Member, Association for Computing Machinery (ACM).
- Member, Eta Kappa Nu, Tau Beta Pi.

A.2. Conference Organizational Activities

1. Program co-Chair, *Asian Conference on Computer Vision*, Daejeon, Korea, November, 2012.
2. Organizing Committee, *Second IEEE Workshop on Egocentric Vision*, Providence, RI, June 2012.
3. Organizing Committee, *Sino-USA Summer School in Vision, Learning, and Pattern Recognition*, Xi'an, China, July 2010.
4. General co-Chair, *IEEE Conference on Computer Vision and Pattern Recognition*, Miami FL, June 2009.

5. Organizing Committee, *First IEEE Workshop on Visual Place Categorization (VPC)*, Miami FL, June 2009.
6. Program co-Chair, *Intelligent Technologies for Interactive Entertainment Conference (INTETAIN)*, Playa del Carmen, Mexico, January 2008.
7. Short Courses and Tutorials Chair, *IEEE International Conference on Computer Vision*, Beijing, China, October 2005.
8. Workshops Chair, *IEEE International Conference on Computer Vision*, Nice, France, October 2003.
9. Organizing Committee, *First IEEE Workshop on Projector-Camera Systems (PROCAMS 2003)*, Nice, France, October, 2003.
10. Organizing Committee, *IEEE Workshop on Models versus Exemplars in Computer Vision*, Kauai, Hawaii, December 2001.

A.3. Conference Committee Activities

Frequent service on the program committees of CVPR, ECCV, ICCV, ICRA, IROS, and NIPS, since 1998. Additional service on the program committees of numerous workshops associated with these meetings.

1. Associate Editor, *IEEE International Conference on Robotics and Automation (ICRA)*, Shanghai, China, 2011.
2. Area Chair, *Asian Conference on Computer Vision*, Xian, China, 2009.
3. Area Chair, *Asian Conference on Computer Vision*, Tokyo, Japan, 2007.
4. Program Committee, *International Joint Conference on Artificial Intelligence*, Edinburgh, Scotland, August 2005.
5. Area Chair, *IEEE Conference on Computer Vision and Pattern Recognition*, Washington, D.C., June 2004.
6. Area Chair, *IEEE International Conference on Computer Vision*, Nice, France, October 2003.
7. Program Committee, *Third International Conference on Automatic Face and Gesture Recognition*, Nara, Japan, April 1997.
8. Invited Panelist, *NSF/DARPA Workshop on the Perception of Action*, Brewster, MA, May 1997.
9. Program Committee, *Second International Conference on Automatic Face and Gesture Recognition*, Killington, VT, October 1996.
10. Invited Panelist, *Third IEEE Workshop on Applications of Computer Vision*, Sarasota, FL, December 1996.

B. On-Campus Committees

1. Member, Graduate Admissions Committee, School of Interactive Computing, 2012.
2. Member, Graduate Admissions Committee, School of Interactive Computing, 2011.
3. Chair, Faculty Recruiting Committee, School of Interactive Computing, 2010.
4. Chair, Faculty Recruiting Committee, School of Interactive Computing, 2009.
5. Chair, Faculty Recruiting Committee, School of Interactive Computing, 2007.
6. Member, Faculty Recruiting Committee, School of Interactive Computing, 2006.

7. Member, Review Committee for RPT, IIC Division, College of Computing, 2006.
8. Member, Advisory Board, CSE Division, College of Computing, 2006.
9. Member, Review Committee for RPT, IIC Division, College of Computing, 2005.
10. Chair, Graduate Admissions Committee, College of Computing, 2005.
11. Chair, Graduate Admissions Committee, College of Computing, 2004.
12. Vice-Chair, Graduate Admissions Committee, College of Computing, 2003.

C. Member of Ph.D. Examining Committees

Georgia Institute of Technology

1. Kihwan Kim, College of Computing, Georgia Tech., Jan 2010 - Present.
Thesis Title: "Adaptive Visualization of Dynamic Scenes Using Spatio-Temporal Analysis of Videos"
Principal Advisor: Dr. Irfan Essa
2. Matthew Crane, Dept. of Biomedical Engineering, Georgia Tech., June 2009 - Present.
Thesis Title: "Microfluidics Devices and Quantitative Phenotyping Methods for High-Throughput Screening of C. elegans"
Principal Advisor: Dr. Hang Lu
3. Gallagher Pryor, College of Computing, Georgia Tech., Nov 2008 - Present.
Thesis Title: "Optimal Mass Transport-Based Registration and Image Synthesis"
Principal Advisor: Dr. Allen Tannenbaum
4. Tracy L. Westeyn, College of Computing, Georgia Tech., April 2010.
Thesis Title: "Child's Play: Activity Recognition for Monitoring Children's Developmental Progress with Augmented Toys"
Principal Advisor: Drs. Thad Starner and Gregory Abowd
5. Pei Yin, College of Computing, Georgia Tech., Jan 2010.
Thesis Title: "Segmental Discriminative Analysis for American Sign Language Recognition and Verification"
Principal Advisor: Drs. Thad Starner and Irfan Essa
6. David Hilley, College of Computing, Georgia Tech., Oct 2009.
Thesis Title: "Temporal Streams - Programming Abstractions for Distributed Live Stream Analysis Applications"
Principal Advisor: Dr. Kishore Ramachandran
7. Michael Kaess, College of Computing, Georgia Tech., Oct 2008.
Thesis Title: "Incremental Smoothing and Mapping"
Principal Advisor: Dr. Frank Dellaert
8. Raffay Hamid, College of Computing, Georgia Tech., July 2008.
Thesis Title: "A Computational Framework for Unsupervised Analysis of Everyday Human Activities"
Principal Advisor: Dr. Aaron Bobick
9. Hasnain Mandviwala, College of Computing, Georgia Tech., May 2008.
Thesis Title: "Capsules: Expressing Composable Computations in a Parallel Programming Model"
Principal Advisor: Dr. Kishore Ramachandran

10. Ananth Ranganathan, College of Computing, Georgia Tech., Feb 2008.
Thesis Title: "Probabilistic Topological Maps"
Principal Advisor: Dr. Frank Dellaert
11. Yifan Shi, College of Computing, Georgia Tech., Aug 2006.
Thesis Title: "Representing and Recognizing Temporal Sequences"
Principal Advisor: Dr. Aaron Bobick
12. Gabe Brostow, College of Computing, Georgia Tech., May 2004.
Thesis Title: "Automatic Armatures for Articulated Creatures"
Principal Advisor: Dr. Irfan Essa
13. Antonio Haro, College of Computing, Georgia Tech., Nov 2003.
Thesis Title: "Example based processing for image and video synthesis"
Principal Advisor: Dr. Irfan Essa
14. Rawesak Tanawongsuwan, College of Computing, Georgia Tech., May 2004.
Thesis Title: "Visual Gait Recognition."
Principal Advisor: Dr. Aaron Bobick

External

1. Pham Minh Tri, School of Computer Engineering, Nanyang Technological Univ., Singapore, Oct 2008.
Thesis Title: Principled Asymmetric Boosting Approaches to Rapid Training and Classification in Face Detection
Principal Advisor: Dr. T.-J. Cham
2. Ricardo Oliveira, Instituto Superior Técnico, Dept. of Electrical and Computer Engineering, Lisbon, Portugal, Sept 2008.
Thesis Title: Optimal Multi-Frame Correspondence with Assignment Tensors
Principal Advisor: Prof. J. Costeira
3. Nicola Conti, Univ. of Trento, Dept. of Information Engineering, Trento, Italy, May 2008.
Thesis Title: Advances in Video Coding
Principal Advisor: Prof. F. De Natale
4. Liu Ren, Carnegie Mellon University, School of Computer Science, Sept 2006.
Thesis Title: Statistical Analysis of Natural Human Motion for Animation
Principal Advisor: Prof. J. Hodgins
5. Jiayong Zhang, Carnegie Mellon University, School of Computer Science, Mar 2006.
Thesis Title: Statistical Modeling and Localization of Nonrigid and Articulated Shapes
Principal Advisor: Prof. R. Collins
6. Tanzeem Choudhury, Massachusetts Institute of Technology, Dept. of Media Arts and Sciences, Sept 2003.
Thesis Title: Learning Social Networks
Principal Advisor: Prof. A. Pentland
7. Sumit Basu, Massachusetts Institute of Technology, Dept. of Media Arts and Sciences, Sept 2002.
Thesis Title: Conversational Scene Analysis
Principal Advisor: Prof. A. Pentland
8. Ashit Talukder, Carnegie Mellon University, Dept. of Electrical and Computer Engineering, Sept 1999.
Thesis Title: Nonlinear Feature Extraction for Computational Vision and Pattern Recognition
Principal Advisor: Prof. J. M. F. Moura

9. Jia-Ching Cheng, Carnegie Mellon University, Dept. of Electrical and Computer Engineering, Oct 1998.
Thesis Title: Capture and Representation of Human Motion in Video
Principal Advisor: Prof. J. M. F. Moura

D. Invited Participation in Meetings and Symposia

1. Invited to participate in *TEDMED 2012* as one of 12 invited attendees from the Georgia Institute of Technology. Meeting will be held in Washington, DC, April 10-13, 2012.
2. Invited participant in the *NSF Workshop on Pervasive Computing at Scale (NSF PeCS)*, based on submitted white paper entitled “Pervasive Assessment of Social Behavior” (57 papers selected out of 229 submissions). Meeting was held at the Univ. of Washington, Seattle WA, Jan 27-28, 2011.
3. Attended the *National Academies Keck Futures Initiative (NAKFI) Workshop* “Seeing the Future with Imaging Science,” Beckman Center, Irvine CA, November 2010. [18% acceptance rate based on submitted bio]

E. Invited Conference Session Chairmanships

1. Conf. on Robots and Systems, St. Louis, MO, 2009. Session on Categorization.
2. Conf on Computer Vision and Pattern Recognition, Washington, DC, 2004. Session on Sensors.
3. Conf. on Computer Vision and Pattern Recognition, Hilton Head Island, SC, 2000. Session on Visual Tracking.

F. Editorial and Reviewer Work for Technical Journals and Publishers

1. Senior Editor, *Encyclopedia of Computer Vision*, Springer, 2008 - present.
2. Editorial Board, *International Journal of Computer Vision*. January 2004 to present.
3. Reviewer for journals: *International Journal of Computer Vision*, *IEEE Transactions on Pattern Analysis and Machine Intelligence*, *Computer Vision and Image Understanding*, *IEEE Transactions on Multimedia*, *Journal of the Optical Society of America*, *IEEE Transactions on Robotics and Automation*.
4. Reviewer for conferences: *IEEE International Conference on Computer Vision*, *IEEE Computer Vision and Pattern Recognition Conference*, *IEEE International Conference of Face and Gesture Recognition*, *ACM SIGGRAPH*.

IV. OTHER CONTRIBUTIONS

A. Keynote Talks at Meetings and Symposia

Keynote Talk

4th Asian Conference on Machine Learning (ACML 2012), Singapore. Talk will take place on November 5, 2012.

“Behavior Imaging and the Study of Autism”

27th Conference on Uncertainty in AI (UAI 2011), Barcelona, Spain, July 15, 2011.

“Behavior Imaging: Using Computer Vision to Study Autism”

12th IAPR Conference on Machine Vision Applications (MVA 2011), Nara, Japan, June 14, 2011.

“Behavior Imaging: Identification, Analysis, and Visualization of Social Behaviors from Video”

IJCAI Workshop on Plan, Activity, and Intent Recognition, Pasadena, CA, July 2009.

“Automatic Face Detection and Recognition: Technical Challenges and Societal Implications”

Sigma XI Fall Lecture, Swarthmore College, November 2004.

B. Invited Conference/Workshop Presentations

“Visual Place Categorization”

Workshop on Computer Vision, Beijing, China, July 2009.

“Social Game Retrieval from Unstructured Videos”

IJCAI Workshop on Intelligent Systems for Assisted Cognition, Pasadena, CA, July 2009.

“Probabilistic Graphical Models and PCMOS”

PCMOS Workshop on Probabilistic and Algorithmic Methods in Future CMOS Circuits and Architecture Design: Novel Approaches to Sustaining Moore’s Law, Atlanta, GA, July 2005.

“Fast and Automatic Induction of Cascade Classifiers”

International Object Recognition Workshop, Taormina, Sicily, October 2004.

“Virtual Rear Projection for Large Interactive Display Surfaces”

Adaptive Displays Conference, Los Angeles CA, August 2004.

“Learning a Rare Event Detection Cascade by Direct Feature Selection”

Designing Tomorrow’s Category-Level 3D Object Recognition Systems: An International Workshop, Taormina, Sicily, September 2003.

“Tracking, Learning, and Reconstructing Human Motion from Video”

Workshop on Real-Time Image Sequence Analysis, Oulu, Finland, August, 2000.

“Motion Capture from Movies”

Asian Conference on Computer Vision, Taipei, Taiwan, January 2000.

C. Invited Talks and Seminars

“Behavior Imaging: Measuring and Modeling Social Behavior from Sensor Data”

Cornell University, Ithaca, NY. Scheduled for Feb 11, 2011.

“Temporal Causality for Visual Event Analysis”

UT Austin Forum for Artificial Intelligence, Austin, TX. Scheduled for Mar 11, 2011.

University College London, London, UK, August 2010.

U Penn GRASP Lab Seminar, Philadelphia, PA, May 2010.

Microsoft Research Seminar, Redmond, WA, May 2010.

Google Research Seattle Seminar, Seattle, WA, May 2010.

CMU Robotics Institute Seminar, Pittsburgh, PA, April 2010.

Dartmouth Computer Science Colloquium, Hanover, NH, March, 2010.

“Egocentric Recognition of Actions based on Object Interactions”

Intel Labs Seattle, Seattle, WA, May 2010.

“Automated Macular Pathology Diagnosis in Retinal OCT Images Using Multi-Scale Spatial Pyramid with Local Binary Patterns”

Siemens Computer-Aided Diagnostics Group, Malvern, PA, June 2010.

“Overview of Expedition in Computational Behavioral Science”

Engineering Psychology Colloquium, School of Psychology, Georgia Tech, Atlanta, GA. Scheduled for Apr 5, 2011.

GVU Center Brown Bag Lecture, Georgia Tech, Atlanta, GA, Nov 2010.

“Behavior Imaging: Computational Methods for Sensing and Analyzing Behavior”

Univ. of Osaka, Japan, Oct 2009.

KAIST, Dept. of Electrical Engineering, Daejeon, S. Korea, Oct 2009.

“Towards the Optimal Design of Cascades of Boosted Ensembles”

Johns Hopkins Univ., Center for Imaging Science, Mar 2009

Univ. of Central Florida, Dept. of ECE, Mar 2009.

Instituto Superior Técnico, Dept. of ECE, Lisbon, Portugal, Sept 2008.

INRIA, Grenoble, France, Apr 2008.

EPFL, Lausanne, Switzerland, Mar 2008.

ETH, Zurich, Switzerland, Feb 2008.

Univ. of Trento, Dept. of Information Engineering, Trento, Italy, Nov 2007.

“Visual Object Categorization for Affordance Learning in Robotics”

Instituto Superior Técnico, Dept. of ECE, Lisbon, Portugal, Sept 2008.

Italian Institute of Science, Genoa, Italy, Mar 2008.

“Virtual Rear Projection for Interactive Displays”

Samsung Research Lab, Seoul, S. Korea, October 2005.

LG Research Lab, Seoul, S. Korea, October 2005.

Intel Seattle Research Lab, Seattle WA, March 2005.

“Optimal Induction of Cascade Classifiers”

KAIST, Dept. of Electrical Engineering, Daejeon, S. Korea, October 2005.

Swarthmore College, Computer Science Department, November 2004.

Google Research, Palo Alto CA, October 2004.

HP Research Labs, Palo Alto CA, October 2004.

“Learning a Rare Event Detection Cascade through Direct Feature Selection”

Univ. of Pennsylvania, GRASP Seminar, April 2004.

Rutgers University, Computer Science Department, March 2004.

Clemson University, Computer Science Department, March 2004.

Microsoft Research, Redmond WA, December 2003.

Intel Pittsburgh Research Lab, Pittsburgh PA, October 2003.

MIT, Computer Vision Seminar Series, June 2003.
Mitsubishi Electric Research Lab, Cambridge MA, June 2003.
Honda Cambridge Research Lab, Cambridge MA, June 2003.

“Speaker Detection Using Boosted Dynamic Bayesian Networks”

University of Washington, Dept. of Computer Science, June 2001.
NASA Jet Propulsion Laboratory, Machine Vision Colloquium, June 2001.
Brown University, Dept. of Computer Science, May 2001.

“Motion Capture from Movies”

University of Rochester, Dept. of Computer Science, March 2001.
Microsoft Research, Redmond, WA, September 2000.
Carnegie Mellon University, Dept. of Electrical and Computer Engineering, March 2000.
Stanford University, Broad Area Colloquium for Artificial Intelligence, Geometry, Graphics, Robotics, and Vision, February 2000.
Microsoft Beijing Research Center, January 2000.

“Figure Tracking”

MIT, 6.892: Computer Vision for Interface and Surveillance, November 2000.

“Tracking, Learning, and Reconstructing Human Motion from Video”

MIT, Dept. of Media Arts and Sciences, September 2000.
University of Toronto, Dept. of Computer Science, April 2000.
Hong Kong University of Science and Technology, Dept. of Computer Science, January 2000.

“Speaker Detection Using Dynamic Bayesian Networks”

University of California at Berkeley, Computer Science Department, February 2000.

V. PERSONAL DATA

Born: 18 September 1964, St. Louis, Missouri
Family Status: Married with four children
Citizenship: USA
Email: rehg@cc.gatech.edu
WWW: <http://www.cc.gatech.edu/~rehg>