

Haiying Guan

CONTACT INFORMATION	<i>Email:</i> haiyingguan@gmail.com <i>Homepage:</i> http://haiyingguan.org	<i>Visa Status:</i> Permanent Resident of USA <i>Location:</i> Bethesda, MD 20814 USA
EDUCATION	Ph.D. in Computer Science <u>CS Department, University of California, Santa Barbara</u> Advisor: Prof. Matthew Turk	Jan. 2002 - Jul. 2007 Santa Barbara, CA, USA
	M.S. in Computer Science <u>CS Department, University of California, Santa Barbara</u> GPA: 3.98/4.0	Jan. 2002 - Jul. 2007 Santa Barbara, CA, USA
	M.S. in Electrical and Electronic Engineering <u>EEE school, Nanyang Technological University</u>	Jul. 1998 - Jul. 2000 Singapore
	M.S. in Information Science <u>Institute of Information Science, Beijing Jiaotong University</u>	Sep. 1994 - Apr. 1997 Beijing, China
	B.E. in Telecommunication and Control Engineering <u>School of Electronic and Information Eng., Beijing Jiaotong University</u>	Sep. 1990 - Jul. 1994 Beijing, China
PROFESSIONAL EXPERIENCE	Postdoctoral Fellow <u>U.S. National Library of Medicine, National Institutes of Health</u> ◊ Spine Pathology and Image Retrieval System (SPIRS) ◊ Image Retrieval for Medical Applications system (SPIRS-IRMA) ◊ Image Text Indexing (ITI)	Apr. 2008 - present Bethesda, MD, USA
	Senior Research Engineer <u>Digital Media Solutions, Samsung Information Systems America</u> ◊ Intelligent and Interactive TV	Aug. 2007 - Mar. 2008 Irvine, CA, USA
	Summer Intern <u>Siemens Medical Solutions</u> ◊ Automatic Hot Spot Detection and Segmentation in FDG-PET Images	Jun. 2005 - Sep. 2005 Malvern, PA, USA
	Research Assistant <u>CS Department, University of California, Santa Barbara</u> ◊ Small Business Technology Transfer: Vision-Based Body Gesture Recognition ◊ Research Across Disciplines: Human Body Tracking as Interface Device for Interactive Installations	Jan. 2005 - Jul. 2007 Santa Barbara, USA
	Research Engineer <u>Center for Signal Processing, Nanyang Technological University</u> ◊ Human Body Detection and Tracking for Video Surveillance	Aug. 2000 - Sep. 2001 Singapore
	Research Assistant <u>Nanyang Technological University</u> ◊ 3D Hand Posture Retrieval in a 2D Single Image	Jul. 1998 - Jul. 2000 Singapore
	Software Engineer <u>CASCO Signal Ltd, ALSTOM</u> ◊ Computer-Based Interlocking System	Apr. 1997 - Jun. 1998 Beijing, China

Research Assistant Sep. 1994 - Apr. 1997
Beijing Jiaotong University Beijing, China
◇ “863” High Technology Research and Development Program: Active Vision System for Video Surveillance

TEACHING
EXPERIENCE

Teaching Assistant Jan. 2002 - Dec. 2004
University of California, Santa Barbara Santa Barbara, USA

CS165A	Artificial Intelligence	Fall 2004
CS10	Computer Programming	Fall 2003
CS181B	Introduction to Computer Vision	Spring 2003
CS265	Advanced Topics in Machine Intelligence	Winter 2003
CS10	Computer Programming	Fall 2002
CS12	Computer Programming	Spring 2002
CS5JA	Introduction to Computer Programming	Winter 2002

PUBLICATIONS

International Journal and Conference Publications

Haiying Guan, Sameer Antani, L. Rodney Long, and George R. Thoma, “Minimizing the semantic gap in biomedical content-based image retrieval”, accepted by *Proc. Of SPIE, Medical Imaging: Advanced PACS-based Imaging Informatics, and Therapeutic Applications*, 2010.

Haiying Guan, Sameer Antani, L. Rodney Long, and George R. Thoma, “Bridging the Semantic Gap using Ranking SVM for Image Retrieval”, In *Proc. of the IEEE International Symposium on Biomedical Imaging: From Nano to Macro (ISBI'09)*, pp. 354-357, 2009.

Haiying Guan, Sameer Antani, L. Rodney Long, and George R. Thoma, “Comparative Study of Spine Vertebra Shape Retrieval using Learning-based Feature Selection”, In *Proc. of the Special Track on Biomedical Image Applications in Research and Clinical Medicine, the 22nd IEEE International Symposium on Computer-Based Medical Systems (CBMS'09)*, 2009.

Haiying Guan and Matthew Turk, “The Hierarchical Isometric Self-Organizing Map for Manifold Representation”, In *IEEE Workshop on Component Analysis Methods for Classification, Clustering, Modeling, and Estimation Problems in Computer Vision, Proc. of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR'07)*, pp. 1-8, 2007.

Haiying Guan, Toshiro Kubota, Xiaolei Huang, Xiang Sean Zhou, and Matthew Turk, “Automatic Hot Spot Detection and Segmentation in Whole Body FDG-PET Images”, In *Proc. of the IEEE International Conference on Image Processing (ICIP'06)*, pp. 85-88, 2006.

Haiying Guan, Jae Sik Chang, Longbin Chen, Rogerio S. Feris, and Matthew Turk, “Multi-view appearance-based 3D hand pose estimation”, In *IEEE Workshop on Vision for Human Computer Interaction, Proc. of the IEEE Conference on Computer Vision and Pattern Recognition (CVPR'06)*, pp. 154-159, 2006.

Haiying Guan, Rogerio S. Feris, and Matthew Turk, “The Isometric Self-Organizing Map for 3D Hand Pose Estimation”, In *Proc. of the 7th International Conference Automatic Face and Gesture Recognition (FG'06)*, pp. 263-268, 2006.

Haiying Guan and Matthew Turk, “3D Hand Pose Reconstruction with ISOSOM”, In *Proc. of the First International Symposium on Advances in Visual Computing (ISVC'05)*, pp. 630-635, 2005.

Chin-Seng Chua, **Haiying Guan**, and Yeong-Khing Ho, “Model-based 3D Hand Posture Estimation From A Single 2D Image”, In *Image Vision and Computing*, vol. 20, pp. 191-202, 2002.

Haiying Guan, Chin-Seng Chua and Yeong-Khing Ho, “3D Hand Pose Retrieval From A Single 2D Image”, In *Proc. of the IEEE International Conference on Image Processing (ICIP'01)*, vol. 1, pp. 157-160, 2001.

Haiying Guan, Chin-Seng Chua and Yeong-Khing Ho, “Model-based Finger Posture Estimation”, In *Proc. of the IEEE Fourth Asian Conference on Computer Vision (ACCV'00)*, pp. 43-48, 2000.

Haiying Guan, Chin-Seng Chua and Yeong-Khing Ho, “Hand Posture Estimation from 2D Monocular Image”, In *Proc. of the IEEE Second International Conference on 3-D Digital Imaging and Modeling (3DIM'99)*, pp. 424-429, 1999.

Haiying Guan, Chin-Seng Chua, Yeong-Khing Ho, Yang Yang, “Model-based Finger Posture Estimation from 2D Monocular Image”, In *Proc. of Image and Vision Computing Conference*, pp. 133-138, 1999.

Yang Yang, Chin-Seng Chua and Yeong-Khing Ho, **Haiying Guan**, “Detection and Labeling of Human Body”, In *Proc. of Image and Vision Computing Conference*, pp. 205-210, 1999.

Journals in China

Haiying Guan and Qiuqi Ruan, “Adaptive Tracking of Non-Rigid Objects Contour based on Hausdorff Distance”, In *Journal of China Institute of Communications*, vol. 19, no. 11, pp. 38-43, 1998.

Haiying Guan and Qiuqi Ruan, “Moving Targets Detection in An Image Sequence”, In *Journal of the China Railway Society*, vol. 18, no. 6, pp. 33-38. 1996.

Posters

Haiying Guan, Sameer Antani, L. Rodney Long, and George R. Thoma, “Learning-based Feature Selection and Fusion for Content-based Medical Image Retrieval”, In *NIH Research Festival*, Poster Session III, IMAG-22, Natcher Conference Center, National Institutes of Health (NIH), Oct 6-9, 2009.

Haiying Guan, Sameer Antani, and L. Rodney Long, “Bridging the Semantic Gap with Ranking SVM in Content-Based Medical Image Retrieval”, In *NLM Informatics Training Conference*, Oregon Health & Science University, June 23-24, 2009.

Theses and Reports

Haiying Guan, “Vision-based 3D Hand Posture Estimation Using Hierarchical-ISOSOM”, Ph.D. thesis, Advisor, Prof. Matthew Turk, Computer Science Department, University of California, Santa Barbara, 2007.

Haiying Guan and Matthew Turk, “3D Hand Pose Reconstruction with ISOSOM”, *Technical Report 2005-15*, Computer Science Department, University of California, Santa Barbara, 2005.

Haiying Guan, “Model-based 3D Hand Posture Estimation from a 2D Image”, Master thesis, Advisor, Prof. Chin Seng Chua, School of Electrical and Electronic Engineering, Nanyang Technological

University, Singapore, 2000.

Haiying Guan, “Detection and Tracking 2D Targets in Image Sequences”, Master thesis, Advisor, Prof. Qiuqi Ruan. Center of Signal and Information Processing, Beijing Jiaotong University, Beijing, China, 1997.

PATENTS

Haiying Guan and Ning Xu, “System and Method for Human Hand Motion Detection By Skin Color Prediction”, filed on May 23, 2008 U.S. Application No. 12/126,688.

Haiying Guan and Ning Xu, “System and Method for Circling Detection Based on Object Trajectory”, filed on July 31, 2008, U.S. Application No. 12/184,008.

Ning Xu and **Haiying Guan**, “System and Method for Waving Detection Based on Object Trajectory”, filed on July 31, 2008, U.S. Application No. 12/183,994.

Yeong-Taeg Kim, Ning Xu, and **Haiying Guan**, “System and Method for Motion Detection Based on Object Trajectory”, filed on July 31, 2008, U.S. Application No. 12/183,973.

Xiaolei Huang, Xiang Zhou, Anna Jerebko, Arun Krishnan, **Haiying Guan**, Toshiro Kubota, Vaclav Potesil, “System and Method for Whole Body Landmark Detection, Segmentation and Change Quantification in Digital Images”, Patent pending, filed in Oct. 2006, U.S. Serial No. 11/542,477.

PROFESSIONAL SERVICES

Editorial Review Board Membership for Scholarly Publications

Reviewer for Journals

- IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)
- Computer Vision and Image Understanding (Elsevier) (CVIU)
- Image and Vision Computing (Elsevier) (IVC)
- Pattern Recognition (Elsevier) (PR)

Reviewer for International Conferences

- International Conference on Computer Vision (ICCV)
- International Conference on Computer Vision and Pattern Recognition (CVPR)
- International Conference on Face and Gesture Recognition (FG)
- IEEE International Workshop on Analysis and Modeling of Faces and Gestures (AMFG in conjunction with ICCV)
- International Conference on Multimodal Interfaces (ICMI)
- International Symposium on Visual Computing (ISVC)

OTHER INFORMATION

Permanent Resident of United States

Completed the background investigation and suitable to occupy a **Level 1 Non Sensitive** position

REFERENCES

Available upon request.

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