

Experience

- Post-doc** (2008, School of Computing, University of Utah)
- Post-doc** (2007-2008, Mitsubishi Electric Research Labs)
- Research Assistant** (2002–2007, School of Computing, University of Utah)
- Software Engineer** (2000–2001, Atwell System Corp., Tokyo, Japan)
- Research Assistant** (1998–2000, Automation Department, Dalian Univ. of Tech.)
- Guest Lecturer:** CS 6310/ME 6220 Introduction to Robotics fall 2008, CS 1000 Engineering Programming Spring 2006
- Teaching Assistant:** CS 1000 Engineering Programming Spring 2006, CS 6310 Introduction to Robotics Fall 2005, CS 2100: Discrete Structures Fall 2002
- Team member:** the 2007 University of Utah DARPA Urban Challenge team Red Rover

Education

- Ph.D. Computer Science, 2007, Univ. of Utah, Salt Lake City, UT, USA.
- M.S. Control Theory and Engineering, 2000, Dalian Univ. of Tech. , China
- B.S. Electrical Engineering, Minor in Mathematics, 1997, Dalian Univ. of Tech., China

Funding

- Co-PI, Next Stage Micro-grant \$5000, 2008-2009 (to develop our patent pending technique for commercialization)

Peer-Reviewed Publications

1. A. Agrawal, **Y. Sun**, J. Barnwell and R. Raskar, "Vision Guided Robot System for Picking Objects By Casting Shadows", Intl. Journal of Robotics Research (under review)
2. T. Grieve, **Y. Sun**, J. M. Hollerbach and S. A. Mascaró, "3-D Force Control on the Human Fingerpad Using a Magnetic Levitation Device for Fingernail Imaging Calibration", World Haptics 2009 (accepted)
3. **Y. Sun**, J. M. Hollerbach and S. A. Mascaró, "Finger Force Direction Estimation with Computer Vision", IEEE Transactions on Robotics (under revision)
4. **Y. Sun**, J. M. Hollerbach and S. A. Mascaró, "Predicting Fingertip Forces by Imaging Coloration Changes in the Fingernail and Surrounding Skin", IEEE Transactions on Biomedical Engineering, Vol 55, No. 10, pp. 2363-2371, 2008
5. **Y. Sun**, J. M. Hollerbach, "Observability Index Selection for Robot Calibration", IEEE Intl. Conference on Robotics and Automation, pp. 831-836, 2008
6. **Y. Sun**, J. M. Hollerbach, "Active Robot Calibration Algorithm", IEEE Intl. Conference on Robotics and Automation, pp. 1276-1281, 2008
7. **Y. Sun**, J. M. Hollerbach and S. A. Mascaró, "Imaging the Finger Force Direction", IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR), pp. 1-6, 2007
8. **Y. Sun**, J. M. Hollerbach and S. A. Mascaró, "Finger Force Direction Recognition by Principal Component Analysis of Fingernail Coloration Pattern", World Haptics, pp. 90 – 95, 2007
9. **Y. Sun**, J. M. Hollerbach and S. A. Mascaró, "EigenNail for Finger Force Direction Recognition", IEEE Intl. Conference on Robotics and Automation, pp. 3251-3256, 2007.
10. **Y. Sun**, J. M. Hollerbach and S. A. Mascaró, "Measuring Finger Forces by Imaging the Fingernail", Proc 14th Intl. Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems, pp. 125-131, 2006
11. **Y. Sun**, J. M. Hollerbach and S. A. Mascaró, "Dynamic Features and Prediction Model for Imaging Fingernail to Measure Finger Forces", IEEE Intl. Conference on Robotics and Automation, pp. 2813-2818, 2006
12. **Y. Sun**, C. L. Jiang, M. Dong, "A skew-correction algorithm for Chinese characters in electronic maps of GIS", Journal of Dalian University of Technology, Vol. 42, No. 1, Jan. 2002 (in Chinese)
13. **Y. Sun**, F. Yin, "Using Genetic Algorithms to Design Buffers in Production Lines", Acta Automatica Sinica, Vol. 27, No. 6, Nov. 2001 (in Chinese)
14. **Y. Sun**, C. L. Jiang, F. Yin, "A Method of Improving Image Processing Speed in Windows", Microcomputer Applications, Vol. 21, No. 4, July, 211-214, 2000 (in Chinese)

Patents

- **Y. Sun**, J. M. Hollerbach and S. A. Mascaró, A System, Method and Apparatus for Detecting a Force Applied to a Finger, U.S. utility patent and international patent pending, (Filed on March 20th, 2007, provisional on March 31th, 2006)

Activities

- Conference committee members: local arrangements chair, World Haptics 2009.
- Technical committee members: computer & robot vision, Haptics in IEEE Robotics and Automation Society
- Reviewer: IJRR, IROS 2007, World Haptics 2007, ICRA 2006, VISAPP 2006
- Schools: medical robotics and computer-integrated interventional systems, Johns Hopkins, 2009, haptic interaction, Paris, France, 2006
- Volunteer staff: CVPR 2006, ICML 2006

Invited Talks

“Imaging fingertip force”, Dalian University of Technology, July 2006

Honors

- Elected as a full member of Sigma Xi, 2007
- Scholarship to Haptics Summer School in Paris, France, 2006
- Best master degree thesis award (the only one in my department) 2000
- Huawei Fellowship 1999
- International Mathematical Modeling Contest 3rd Prize 1996
- National Mathematical Modeling Contest 1st Prize 1995
- University level Mathematical Modeling Contest 1st Prize 1995
- Scholarship 1994-1996.