

Sara Su

Tufts University, Department of Computer Science
161 College Avenue, Halligan Hall E011
Medford, MA 02155 USA
sarasu@cs.tufts.edu
<http://www.cs.tufts.edu/~sarasu>

ACADEMIC HISTORY

- 2005-2009 **Massachusetts Institute of Technology**, Cambridge, MA
Ph.D. in Computer Science
Thesis: *Enhanced Visual Authoring Using Operation History*
Advisor: Frédo Durand
- 2002-2005 **Massachusetts Institute of Technology**, Cambridge, MA
M.S. in Computer Science
Thesis: *Perceptual Picture Emphasis Using Texture Power Maps*
Advisor: Frédo Durand
- 1998-2002 **University of Washington**, Seattle, WA
B.S. in Computer Engineering
Advisor: Richard Anderson

EMPLOYMENT HISTORY

- September 2009-present **Tufts University**, Medford, MA
Visiting Assistant Professor of Computer Science
- June-September 2009 **Massachusetts Institute of Technology**, Cambridge, MA
Postdoctoral researcher in the Computer Science and Artificial Intelligence Laboratory
- 2002-2009 **Massachusetts Institute of Technology**, Cambridge, MA
Graduate student researcher with Prof. Frédo Durand in the Computer Graphics Group
- Fall-Winter 2007 **Adobe Systems**, Newton, MA
Intern in the Creative Technology Labs with Dr. Sylvain Paris
- Summer 2003 **Microsoft Research**, Redmond, WA
Intern in the Document Processing and Understanding group with Dr. Maneesh Agrawala
- Summer 2002 **Adobe Systems**, San Jose, CA
Graphics intern in the Advanced Technology Group with Dr. Dick Sites
- Summer-Fall 2001 **Microsoft Research Asia**, Beijing, China
Intern in the Visual Computing Group with Dr. Harry Shum and Dr. Ying-Qing Xu
- 2000-2001 **University of Washington**, Seattle, WA
Undergraduate research assistant with Prof. Richard Anderson
- Summer 2000 **Cray Inc.**, Seattle, WA
Software engineer intern with Dr. Andrew Shapira and Dr. Robert Henry

TEACHING EXPERIENCE

- Fall 2010, **Comp 175: Computer Graphics**, Instructor, Tufts University
Fall 2009 Graduate-level survey of graphics algorithms, data structures, and applications using OpenGL
- Spring 2010 **Comp 150-04: Special Topics in Visualization**, Instructor, Tufts University
New interdisciplinary graduate-level course on interactive data visualization
- Summer 2010 **Comp 10: Exploring Computer Science**, Instructor, Tufts University
Introductory C++ course for undergraduates with no prior programming experience
- Fall 2010, **En 47/Comp 9: Exploring Computer Science**, Instructor Tufts University
Spring 2010, Fall 2009 Introductory C++ course for undergraduates with no prior programming experience
- Summer 2006 **Introduction to Computer Science**, Instructor, MIT Women's Technology Program
Intensive introductory course and STEM outreach program for female high school students

ACADEMIC AWARDS

- 2002-2005 National Science Foundation Graduate Research Fellowship
2005 M.J. Levin Award for Best Thesis Presentation in Computer Science, MIT
2002 MIT Presidential Fellowship
2002 National Defense Science and Engineering Graduate Fellowship (declined)
2002 Runner-up, Computing Research Association Outstanding Undergraduate Award
1998-2002 NASA Space Grant Scholarship, University of Washington
1998-2002 Mary Gates Undergraduate Scholarship, University of Washington
2000 Boeing Scholarship, UW College of Engineering
1998-2002 National Merit Scholarship
1998 Coca-Cola/QFC Scholarship
1998 Washington delegate to National Youth Science Camp

GRANTS

Information available on request

PUBLICATIONS & PRESENTATIONS

** indicates result of supervised student research

- [1] Sean Kelley, Connor Gramazio, Edward E. Aftandilian, , Nathan Ricci, Sara L. Su, Samuel Z. Guyer. Heapviz: A programmer's tool for data structure visualization. In *Proceedings of IEEE VisWeek*, Interactive demo, Salt Lake City, UT, Oct. 2010. **
- [2] Edward E. Aftandilian, Sean Kelley, Connor Gramazio, Nathan Ricci, Sara L. Su, Samuel Z. Guyer. Heapviz: Interactive heap visualization for program understanding and debugging. In *Proceedings of ACM Symposium on Software Visualization*, Salt Lake City, UT, Oct. 2010. **
- [3] Matt Menke, Sara L. Su, Connor Gramazio, Caitlin Crumm, Daniela Extrum-Fernandez, Lenore Cowen. TuftsViewer: An intuitive interface for viewing 3D protein structures. Interactive demo. In *Proceedings of 3DSIG 2010: The 6th Structural Bioinformatics and Computational Biophysics Meeting*, Boston, MA, Jul. 2010. **
- [4] Sara L. Su, Sylvain Paris, Frederick Aliaga, Craig Scull, Steven Johnson, Frédo Durand. Interactive visual histories for vector graphics. Technical Report MIT-CSAIL-TR-2009-031, Massachusetts Institute of Technology, Cambridge, MA, Jun. 2009.

- [5] Sara L. Su, Sylvain Paris, Frédo Durand. QuickSelect: History-based selection expansion. In *Proceedings of the 35th Graphics Interface Conference*, pages 215-221, Kelowna, BC, Canada, May 2009.
- [6] Sara L. Su. *Enhanced Visual Authoring Using Operation History*. Ph.D. thesis, Massachusetts Institute of Technology, Cambridge, MA, May 2009.
- [7] Sara L. Su. Visualizing, editing, and inferring structure in 2D graphics. Doctoral Symposium, In *Adjunct Proceedings of the 20th ACM Symposium on User Interface Software and Technology*, pages 29-32, Newport, RI, Oct. 2007.
- [8] Mala Radhakrishnan, Sara L. Su. Dead-end elimination as a heuristic for min-cut image segmentation. In *Proceedings of the 13th IEEE International Conference on Image Processing*, pages 2429-2432, Atlanta, GA, Oct. 2006.
- [9] Sara L. Su, Frédo Durand, Maneesh Agrawala. De-emphasis of distracting image regions using texture power maps. In *Texture 2005: Proceedings of the 4th ICCV International Workshop on Texture Analysis and Synthesis*, pages 119-124, Beijing, China, Oct. 2005.
- [10] Sara L. Su, Frédo Durand, Maneesh Agrawala. De-emphasis of distracting image regions using texture power maps. Poster, In *Proceedings of the 2nd ACM/SIGGRAPH Symposium on Applied Perception in Graphics and Visualization*, A Coruña, Spain, Aug. 2005.
- [11] Sara L. Su, Frédo Durand, Maneesh Agrawala. Image editing with texture power maps. Poster, Symposium on Computational Photography and Video, Cambridge, MA, May 2005.
- [12] Sara L. Su. *Perceptual Picture Emphasis Using Texture Power Maps*. Master's thesis, Massachusetts Institute of Technology, Cambridge, MA, Jan. 2005.
- [13] Sara L. Su, Frédo Durand, Maneesh Agrawala. An inverted saliency model for display enhancement. In *Proceedings of the Student Oxygen Workshop*, Ashland, MA, September 2004.
- [14] Sara L. Su, Chenyu Wu, Ying-Qing Xu, Heung-Yeung Shum. A hybrid approach to rendering handwritten characters. In *Proceedings of 12th International Conference on Computer Graphics, Visualization, Computer Vision*, pages 427-434, Plzen, Czech Republic, Feb. 2004.
- [15] Sara L. Su, Ying-Qing Xu, Heung-Yeung Shum, Falai Chen. Simulating artistic brushstrokes using interval splines. In *Proceedings of the 5th International Conference on Computer Graphics and Imaging*, pages 85-90, Kauai, HI, Aug. 2002.
- [16] Sara Su, Richard Anderson. The Tutored Video Instruction pilot project: Overview and experiences in introductory programming courses. Poster, First ACM Richard Tapia Symposium on Diversity in Computing, Houston, Texas, Oct. 2001.

Articles in Submission

Available on request

PROFESSIONAL ACTIVITIES

Reviewer NSF Geography and Spatial Sciences Program

Conference Organization Grace Hopper Conference Ph.D. Forum and Scholarship selection, 2010
 Interfaces and Human Computer Interaction Conference program committee, 2008, 2009
 MIT Student Oxygen Workshop, 2004, 2005

- Journal** *IEEE Computer Graphics & Applications*
Reviewer *IEEE Transactions on Multimedia*
Computers & Graphics
The Visual Computer
Information Visualization
- Conference** CHI (ACM Conference on Human Factors in Computing Systems)
Reviewer UIST (ACM Symposium on User Interface Software and Technology)
 SIGGRAPH (ACM Conference on Computer Graphics and Interactive Techniques)
 SIGGRAPH Asia
 Eurographics Conference
 Eurographics Symposium on Rendering
 NPAR (Symposium on Non-Photorealistic Animation and Rendering)
 ICPR (International Conference on Pattern Recognition)
 IEEE Visualization
- Professional** Member of ACM, SIGGRAPH, 2002-
Development Grace Hopper Conference, 2000, 2008, 2009, 2010
 Tapia Symposium on Diversity in Computing, 2001
 Nancy Houfek's "Act of Teaching" workshop, 2010
 CRA-W Graduate Cohort, CRA-W Career Mentoring Workshop, 2007
 Tau Beta Pi, Eta Kappa Nu, Golden Key honor societies, 2001-

SERVICE

- 2010 Mentor, CRA-W Distributed Research Experiences for Undergraduates
- 2010 Mentor, Tufts Summer Scholars
- 2010- Faculty advisor, Tufts Women in Computer Science (ACM-W/WICS)
- 2010- Faculty advisor, Tufts SIGGRAPH chapter
- 2004 MIT Graphics seminar organizer
- 2001 Interviewing committee for UW CSE undergraduate advisor
- 2001 Treasurer, University of Washington ACM
- 2000-2002 Outreach volunteer, UW Computer Science and Engineering
- 2001 Peer mentor, UW Women in Science and Engineering
- 2000 Treasurer, UW Eta Kappa Nu EE Honor Society
- 2000 Programming tutor, UW Electrical Engineering

PERSONAL

Citizenship: United States
 Birth: January 1982 in Jackson, MS
 Languages spoken: English, Chinese