Shengdong Zhao

January 2008 Curriculum Vitae

Interactive Media Lab (IML)
Dynamic Graphic Project Lab (DGP)
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RESEARCH PROFILE

Human-Computer Interaction, focusing on mobile HCI and Information Visualization. Strong research experience in gesture input and mobile eyes-free interfaces, with related interests in accessibility for the blind, multi-finger interaction techniques, personalized search tools, and digital document and services.

EDUCATION

University of Toronto, Toronto, ON, Canada
Ph.D. candidate in Computer Science (Human Computer Interaction) • 2003 – Present
Expected graduation date: May 2008
Dissertation Topic: earPod – Mobile Eyes-free Menu Selection. Advisor: Mark H. Chignell

University of California at Berkeley, Berkeley, CA, U.S.A.
Master of Information Management & Systems • 1999 – 2001
Thesis Project: Dynamic Information Builder, an XML based information management software application.

Linfield College, McMinville, OR, U.S.A.
Bachelor of Science • 1994 – 1998
Concentration in Computer Science and Biology

WORKING EXPERIENCE

Research Intern, Microsoft Research – Redmond, WA • Summer 2006
Mentor: Ken Hinckley. Manager: Eric Horvitz. Designed and implemented "InkSeine" -- an in-situ search tool for active note taking. InkSeine was published at ACM CHI 2007 [C.1], and is currently available for internal download at Microsoft Corporation. Public release is staged for February, 2008. This work also led to U.S. patent applications [P.1, P.2].

Research Intern, Microsoft Research – Redmond, WA • Summer 2005
Mentor: Maneesh Agrawala. Manager: Patrice Simard. Designed and implemented "Zone and Polygon Menus" -- a set of efficient gesture-based menu techniques. This research was published at ACM CHI 2006 [C.5], and led to a U.S. patent application [P.3].

Research Associate, University of Toronto • 2001-2002
Advisor: Monica Schraefel. Worked on Hunter Gatherer and mSpace projects. Research results were published at various conferences and workshops [C.8, c1, c2, c3].

Research Assistant, University of California, Berkeley • 1999-2001
Advisor: Robert Wilensky. Implemented the PDF Media Adaptor, and the multipage behaviour (software plugins) for the Multivalent Document Browser. Multivalent Document Browser is a java-based tool to natively view HTML, PDF 1.5, TeX DVI and UNIX Manual pages. It is now available for download at sourceforge.net.

Consulting, Space Machine Inc., Sunnyville, CA, U.S.A. • Summer 2000
Managed and trained the data operation team to collect and provide e-commerce data for CommerceMap and its related services. CommenceMap (www.commercemap.com) is an intuitive Web-based solution that enables users to search for local commerce information where proximity to locations is an important criterion.

Staff Engineer, SeeUthere.com Inc., Mountain View, CA, U.S.A. • 1999
Developed the business logic of an event planning system. My work contributed to an international patent application [P.4].

Computer System Engineer, Lawrence Berkeley National Lab, Berkeley, CA, U.S.A. • 1998
Manager: Sonia Sachs. Developed an electronic notebook application sponsored by the Department of Energy.

PUBLICATIONS

Refereed (Full) Conference Paper

[C.1] Ken Hinckley, Shengdong Zhao, Raman Sarin, Patrick Baudisch, Edward Cutrell, Michael Shilman, Desney Tan (2007). InkSeine: In Situ Search for Active Note Taking. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*. pp. 251-260.

[C.2] Shengdong Zhao, Pierre Dragicevic, Mark H. Chignell, Ravin Balakrishnan, Patrick Baudisch (2007). earPod: Eyes-free Menu Selection with Touch Input and Reactive Audio Feedback. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*. pp. 1395-1404. **[Selected press coverage: MIT Technology Review, May 2007]**

[C.3] Xiangshi Ren, Jinbin Ying, Shengdong Zhao, Yang Li (2007). The Adaptive Hybrid Cursor: A Pressure-based Target Selection Technique for Pen-based Interfaces. *Proceedings of the Interact 2007 Conference (INTERACT).* pp. 310-323.

[C.4] Patrick Baudisch, Desney Tan, Maxime Collomb, Daniel Robbins, Ken Hinckley, Maneesh Agrawala, Shengdong Zhao, and Gonzalo Ramos (2006). Phosphor: Explaining Transitions in the User Interface Using Afterglow Effects. *Proceedings of the ACM Symposium on User Interface Software and Technology (UIST)*. pp. 169-178.

[C.5] Shengdong Zhao, Maneesh Agrawala, Ken Hinckley (2006). Zone and Polygon Menus: Using Relative Position to Increase the Breadth of Multi-stroke Marking Menus. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI)*. pp. 1077-1086.

[C.6] Shengdong Zhao, Michael J. McGuffin, Mark H. Chignell (2005). Elastic Hierarchies: Combining Treemaps and Node-link Diagrams. *Proceedings of IEEE Symposium on Information Visualization (InfoVis)*. pp. 57-64.

[C.7] Shengdong Zhao, Ravin Balakrishnan. (2004). Simple vs. Compound Mark Hierarchical Marking Menus. *Proceedings of the ACM Symposium on User Interface Software and Technology (UIST)*. pp. 33-42. **[Received 5,5,5,5 from all reviewers - the highest review score in UIST 2004.]**

[C.8] Monica C. Schraefel, Yuxiang Zhu, David Modjeska, Daniel Wigdor, Shengdong Zhao. (2002) Hunter Gatherer: Interaction Support for the Creation and Management of Within-web-page Collections. *Proceedings of the Eleventh International Conference on World Wide Web (WWW)*. pp. 172-181.

Short Papers, Posters, Workshop Papers

[c.1] Monica C. Schraefel, Maria Karam, Shengdong Zhao (2003). Listen to the Music: Audio Preview Cues for Exploration of Online Music. *Proceedings of the Interact 2003 Conference (INTERACT)*.

[c.2] Monica C. Schraefel, Maria Karam, Shengdong Zhao (2003). Audio Preview Cues: Interaction Aides for Exploration of Online Music and Beyond. *HCI International*.

[c.3] Monica C. Schraefel, Maria Karam, Shengdong Zhao (2003). mSpace: Interaction Design for User-Determined, Adaptable Domain Exploration in Hypermedia. *AH2003: Workshop on Adaptive Hypermedia and Adaptive Web-Based Systems.*

Patents

[P.1] United States Patent – Self-revelation Aides for Interfaces, filed January, 2008. (Pending)

[P.2] United States Patent – Serial No. 11/733,113 In Situ Search for Active Note Taking, filed April 09, 2007. (Pending)

[P.3] United States Patent – Application No. 20070168890 Position-based Multi-stroke Marking Menus, filed January 13, 2006. (Pending)

[P.4] WIPO International Patent – Publication No. WO/2000/079361 Event Planning System, filed December 28, 2000. (Granted January, 2006)

INVITED TALKS

[I.1] **"**earPod: Expanding the Role of Responsive Audio in Mobile Interfaces". *Intelligence Engineering Lab*, *Chinese Academy of Sciences*, Beijing, China, September 2007

[I.2] **"**eyes-free Menu Selection for Mobile Interfaces". *Canadian Imperial Bank of Commerce (CIBC) User Experience Team*, Toronto, Canada, August 2007

TEACHING EXPERIENCE

Course Instructorships

University of Toronto

CSC318: The Design of Interactive Computational Media • Fall 2007
An introductory course in user interface design and human-computer interaction. Students implemented a multi-stage term-long project in interactive media, completing one iteration of the design life cycle.

CSC104: The Why and How of Computing • Summer 2005
An introductory computer science course for non-computer scientists. Topics cover hardware, software, history of computing machinery, algorithms, and programming.

As instructor for the above courses, I prepared and delivered lectures, set and graded assignments and examinations, supervised teaching assistants, and maintained course websites.

Teaching Assistant

University of Toronto

Various Courses: CSC108 Introduction to Computer Programming; CSC309 Programming on the Web; CSC318 The Design of Interactive Media; CSC343 Introduction to Databases; CSC428 Human Computer Interaction (2002 – 2007)

SUPERVISORY EXPERIENCE

Students working on research projects under my direction:
Andrew Chignell (undergraduate student, University of Toronto, summer 2007) implemented software components and helped running experiments
Michele Qu (undergraduate student, University of Toronto, summer 2006) processed data for the *earPod* project

Teaching assistants working under my direction:
Alvin Chin (CSC318, University of Toronto, fall 2007) conducted tutorials and marked assignments
Bowen Hui (CSC104, University of Toronto, summer 2005) conducted tutorials and marked assignments

HONORS & AWARDS

University of Toronto Fellowship • 2003-2007
Linfield College Faculty Scholarship • 1994-1998
Linfield College International Scholarship • 1994-1998
The Jay-Yon Lee International Scholarship • 1997

SERVICE

Paper Reviewing

ACM Conference on Human Factors in Computing Systems (CHI) • 2004-2007
International Journal of Human-Computer Studies • 2007
Conference on Visualization and Data Analysis • 2006
International Journal of Human-Computer Interaction • 2005-2006
ACM SIGGRAPH Sketches • 2006
Graphics Interface (GI) • 2005

Student Volunteer

ACM UIST: 2006 (Montreux, Switzerland)

Professional Memberships

Association for Computing Machinery (ACM)
Institute of Electrical and Electronics Engineers (IEEE)
ACM Special Interest Group in Computer-Human Interaction (SIGCHI)

Personal Activities

President of Fenghua Salon, University of Toronto • 2005-2006
Vice President of International Club, Linfield College • 1997

LANGUAGES

Chinese (Mandarin) – native language
English – proficiency in speaking, reading, and writing

REFERENCES

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