

Steve Oney

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Education

09/2008 – 04/2015 **Carnegie Mellon University**
Pittsburgh, PA PhD in Human-Computer Interaction (thesis T.02 below)
MS in Human-Computer Interaction
Advisors: Brad Myers and Joel Brandt (Adobe Research)
Committee: Scott Hudson and John Zimmerman

09/2003 – 08/2008 **Massachusetts Institute of Technology**
Cambridge, MA MEng in Computer Science (thesis T.01 below)
SB in Computer Science
SB in Mathematics

Professional Experience

09/2016 – present **School of Information, University of Michigan**
Ann Arbor, MI Assistant Professor

01/2017 – present **Computer Science and Engineering, University of Michigan**
Ann Arbor, MI Assistant Professor (by courtesy)

09/2015 – 09/2016 **School of Information, University of Michigan**
Ann Arbor, MI Post Doctoral Presidential Fellow

09/2008 – 04/2015 **Carnegie Mellon University (Human-Computer Interaction Institute)**
Pittsburgh, PA Graduate Student and researcher

03/2013 – 06/2013 **Advanced Technologies Labs, Adobe Systems, Research Intern**
San Francisco, CA Designed and developed InterState, an interactive editor for creating highly interactive interfaces. (C.08)

06/2011 – 09/2011 **Advanced Technologies Labs, Adobe Systems, Research Intern**
San Francisco, CA Developed and evaluated “Codelets”, interactive documentation intended to help developers use example code snippets. (C.04)

05/2009 – 08/2009 **IBM Research, Almaden, Research Intern**
San Jose, CA Developed Playbook, a system that turns Photoshop drawings into interactive prototypes through programming-by-demonstration, conducted informal interviews with designers to develop design requirements. (C.03)

01/2007 – 08/2008 MIT Media Laboratory, Cognitive Machines Group, Researcher
Cambridge, MA Annotated baseball footage to train a system that automatically determines context from video frame content, wrote scripts to automate statistic gathering, and developed a system to search for statistics with natural language. (T.01)

Publications

Refereed Conference

- C.14 Krosnick, R., Lee, S.W., Lasecki, W., **Oney, S.** (2018) Espresso: Building Responsive Interfaces with Keyframes. *IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*, Lisbon, Portugal. October 1–4. to appear.
- C.13 **Oney, S.**, Lundgard, A., Krosnick, R., Nebeling, M., Lasecki, W. (2018) Arbility: Improving Web Accessibility Through a Shared Browsing Architecture. *ACM Symposium on User Interface Software and Technology (UIST)*, Berlin, Germany, October 14–17. to appear.
- C.12 Lin, S.C., Hsu, C.H., Talamonti, W., Zhang, Y., **Oney, S.**, Tang, L., Mars, J. (2018) Adasa: In-Vehicle Digital Assistant for Advanced Driver Assistance Features. *ACM Symposium on User Interface Software and Technology (UIST)*, Berlin, Germany, October 14–17. to appear.
- C.11 Chen, Y., Lee, S. W., Xie, Y., Yang, Y., Lasecki, W., **Oney, S.** (2017) Codeon: On-Demand Software Development Assistance *ACM Conference on Human Factors in Computing Systems (CHI)*, Denver, CO, USA May 6–11. pp 6220–6231.
- C.10 Rong, X., Yan, S., Y., **Oney, S.**, Dontcheva, M., Adar, E. (2016) CodeMend: Assisting Interactive Programming with Bimodal Embedding. *ACM Symposium on User Interface Software and Technology (UIST)*, Tokyo, Japan, October 16–19. pp 247–258.
- C.09 Chen, Y., **Oney, S.**, and Lasecki, W. (2016) Towards Providing On-Demand Expert Support for Software Developers. *ACM Conference on Human Factors in Computing Systems (CHI)*, San Jose, CA, USA, May 7–12. pp 3192–3203.
- C.08 **Oney, S.**, Myers, B., and Brandt, J. (2014) InterState: A Language and Environment for Expressing Interface Behavior. *ACM Symposium on User Interface Software and Technology (UIST)*, Honolulu, HI, USA, October 5–8. pp 263–272.
- C.07 **Oney, S.**, Harrison, C., Ogan, A., and Wiese, J. (2013) ZoomBoard: A Diminutive QWERTY Soft Keyboard Using Iterative Zooming for Ultra-Small Devices. *ACM Conference on Human Factors in Computing Systems (CHI)*, Paris, France, April 27 – May 2. pp 2799–3002
honorable mention for best paper award
- C.06 **Oney, S.**, Myers, B., and Brandt, J. (2012) ConstraintJS: Programming Interactive Behaviors for the Web by Integrating Constraints and States. *ACM Symposium on User Interface Software and Technology (UIST)*, Cambridge, MA, USA, October 7–10. pp 229–238
- C.05 Pandita, R., Xiao, X., Zhong, H., Xie, T., **Oney, S.**, and Paradkar, A. (2012) Inferring Method Specifications from Natural Language API Descriptions. *International Conference on Software Engineering (ICSE)*, Zürich, Switzerland, June 2–9. pp 815–825

- C.04 **Oney, S.** and Brandt, J. (2012) Codelets: Linking Interactive Documentation and Example Code in the Editor. *ACM Conference on Human Factors in Computing Systems (CHI)*, Austin, TX, USA, May 5–10. pp 2697–2706
- C.03 **Oney, S.**, Barton, J., Myers, B., Lau, T., and Nichols, J. (2011) Playbook: Revision Control & Comparison for Interactive Mockups. *International Symposium on End-user Development (ISEUD)*, Torre Canne, Italy, June 7–10. pp 295–300
- C.02 Ozenc, K., Kim, M., Zimmerman, J., **Oney, S.**, and Myers, B. (2010). How to Support Designers in Getting Hold of the Immaterial Material of Software. *ACM Conference on Human Factors in Computing Systems (CHI)*, Atlanta, GA, USA, April 10–15. pp 2513–2522
- C.01 **Oney, S.** and Myers, B. (2009). FireCrystal: Understanding Interactive Behaviors in Dynamic Web Pages. *IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*, Corvallis, OR, USA, September 20–24. pp 105–108

Book Chapter

- B.01 Myers, B., Ko, A., Scaffidi, C., **Oney, S.**, Yoon, Y.S., Chang, K, Kery, M.B., and Li, T. (2016). Making End User Development More Natural, in *Advances in End User Development* , pp 1–22

Refereed Workshop & Doctoral Consortium

- W.10 Spinelli, L., Pandey, M., and **Oney, S.** (2018). Attention Patterns for Code Animations: Using Eye Trackers to Evaluate Dynamic Code Presentation Techniques, in *Programming Experience (PX/18)*. Nice, France.
- W.09 **Oney, S.** Expert Crowd Support Systems for Software Developers. In *Proceedings of Collective Intelligence 2016 (CI 2016)*. New York, U.S.
- W.08 Chen, Y., **Oney, S.**, and Lasecki, W. Expert Crowd Support Systems for Software Developers. In *Proceedings of Collective Intelligence 2016 (CI 2016)*. New York, U.S.
- W.07 Chen, Y., **Oney, S.**, and Lasecki, W. (2016). Expert Crowd Support Systems for Software Developers. *Collective Intelligence 2016*, New York, NY, USA June 1–3.
- W.06 **Oney, S.**, Myers, B., and Brandt, J. (2013). Euclase: A Live Development Environment with Constraints and FSMs. *International Workshop on Live Programming, International Conference on Software Engineering (ICSE)*, San Francisco, CA, USA, May 19.
- W.05 Myers, B., **Oney, S.**, Yoon, Y., and Brandt, J. (2013). Creativity Support in Authoring and Backtracking. *Workshop on Evaluation Methods for Creativity Support Environments, ACM Conference on Human Factors in Computing Systems (CHI)*, Paris, France, April 28.
- DC.04 **Oney, S.** (2011) Development Tools for Interactive Behaviors. *Doctoral Consortium: International Symposium on End-user Development (ISEUD)*, Torre Canne, Italy, June 7–10. pp 395–398

- DC.03 **Oney, S.** (2010) Democratizing Computational Tools for Interaction Designers. *Doctoral Consortium: IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*, Madrid, Spain, September 21–25. pp 249–250
- DC.02 **Oney, S.** (2009) Empowering Designers with Creativity Support Tools. *Doctoral Consortium: IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*, Corvallis, OR, USA, September 20–24. pp 254–255
- W.01 **Oney, S., Myers, B., and Zimmerman, J.** (2009). Visions for Euclase: Ideas for Supporting Creativity through Better Prototyping of Behaviors. *Workshop on Computational Creativity, ACM Conference on Human Factors in Computing Systems (CHI)*, Boston, MA, USA, April 4

Thesis

- T.02 **Oney, S.** (2015). Expressing Interactivity with States and Constraints. *Carnegie Mellon Ph.D Thesis*, Pittsburgh, PA, USA, April.
- T.01 **Oney, S.** (2008). Natural Language Search of Structured Texts. *MIT M.Eng Thesis*, Cambridge, MA, USA, August.

Grants

- 01/2018 **Designing Scalable Help Tools for Programming Courses**
\$174,981.00 Team: Steve Oney
Sponsor: National Science Foundation
Program: Cyber-Human Systems (CHS) CRII
- 11/2017 **Prototyping Tools to Improve Crowd Based Training for IVA Development**
\$37,000.00 Team: Steve Oney and Walter Lasecki
Sponsor: Clinc, Inc.
- 04/2017 **End-user techniques for aggregating and analyzing exercise and physical data**
\$198,327.00 Team: Steve Oney, Michael Nebeling and Sun Young Park
Sponsor: Exercise Science & Sports Initiative

Awards

- 09/2015 **University of Michigan's President's Postdoctoral Fellowship**
- 04/2013 **CHI (ACM Conference on Human Factors in Computing Systems)**
Honorable Mention for Best Paper Award (C.07)
- 10/2009 **UIST (ACM Symposium on User Interface Software and Technology) Student Innovation Contest, 1st place**
Part of winning team in most creative category
- 09/2009 **Google/UNCF (United Negro College Fund) Scholarship**
One-year scholarship for \$10,000

- 09/2009 – 05/2012 **Ford Foundation Predoctoral Fellowship**
Annual stipend of \$20,000 for three years Awarded to 60 doctoral students nationwide across disciplines
- 09/2008 – 05/2011 **ARCS (Achievement Rewards for College Scientists) Foundation Scholarship (Pittsburgh Chapter)**
Annual stipend of \$5,000 for three years Awarded to 13 doctoral students in Pittsburgh area (CMU & Univ. of Pitt.)
- 09/2008 **MIT Battlecode Open Programming Competition Finalist**
- 09/2008 **New England Women's and Men's Athl. Conf., Academic All-Conference**
Awarded for academic success while a member of MIT's varsity Track team

Invited Presentations

- 11/2017 **University of Wisconsin**
Madison, WI HCI Seminar: Designing Tools for Remote Communication Between Programmers
- 03/2016 **University of Michigan School of Information**
Ann Arbor, MI Programming Tools that Speak our Language
- 10/2015 **University of Notre Dame Department of Computer Science and Engineering**
South Bend, IN Expressing Interactivity with States and Constraints
- 04/2015 **University of Illinois at Chicago Department of Computer Science**
Chicago, IL Expressing Interactivity with States and Constraints
- 03/2015 **Boston University Department of Computer Science**
Boston, MA Expressing Interactivity with States and Constraints
- 03/2015 **FX Palo Alto Laboratory**
Palo Alto, CA Expressing Interactivity with States and Constraints
- 03/2015 **Stony Brook University Computer Science Department**
Stony Brook, NY Expressing Interactivity with States and Constraints
- 02/2015 **University of California at Irvine Department of Informatics**
Irvine, CA Expressing Interactivity with States and Constraints
- 03/2010 **Dagstuhl: Practical Software Testing: Tool Automation and Human Factors**
Dagstuhl, Germany
- 06/2009 **IBM Almaden Lunch Seminar**
San Jose, CA FireCrystal: Understanding Interactive Behaviors in Dynamic Web Pages

Service

Program Committee

- 2019 ACM International Conference on Tangible, Embedded and Embodied Interactions (TEI)

2017, 2018 ACM Symposium on User Interface Software and Technology (UIST)
2017, 2018 Programming Experience Workshop (PX)
2016 – 2019 ACM Conference on Human Factors in Computing Systems (CHI)

Peer Reviewing

2010 – 2016 ACM Conference on Human Factors in Computing Systems (CHI)
2011 – 2015 ACM Symposium on User Interface Software & Technology (UIST)
2014 Conference on Human-Computer Interaction with Mobile Devices (MobileHCI)
2010, 2012 ACM Conference on Designing Interactive Systems (DIS)
2008, 2009 Philippine Journal of Science (PJS)

Operations Committee

2012 – 2015 ACM CHI operations committee (mobile program)
2013 – 2015 ACM UIST operations committee (mobile program)
2013 – 2015 ACM ITS operations committee (mobile program)
2012 ACM UbiComp organizer (mobile guide)
2010, 2011 ACM CHI mobile guide development team
2010, 2011 ACM CHI student volunteer

Other

2018 – 2019 University of Michigan Interactive and Social Computing (MISC) coordinator
2009 – 2015 CMU Computer Science outreach roadshow volunteer (with Women@SCS & SCS4All)
2011 – 2014 CMU Human-Computer Interaction Institute (HCII) ombudsman
2010 CMU Human-Computer Interaction Institute (HCII) visit weekend co-chair
2009, 2010 CMU HCII PhD lunch coordinator

Teaching

2016 – present **Instructor – SI 106 (Programs, Information & People)**
University of Michigan

Fall 2016 **Instructor – SI 506 (Programming 1)**
University of Michigan

- 09/2012 – 12/2012 **Instructor – Web Lab, Programming User Interfaces**
Carnegie Mellon Developed syllabus, wrote lectures, created projects, presented, graded, and held office hours weekly. Instructor rating: 4.7/5.0
- 09/2010 – 12/2010 **Instructor – GUI Lab, Programming User Interfaces**
Carnegie Mellon Instructor – GUI Lab, Programming User Interfaces Developed syllabus, wrote lectures, created projects, presented, graded, and held office hours weekly. Instructor rating: 4.6/5.0
- 09/2007 – 05/2008 **Teaching Assistant – Intro. to Computers and Problem Solving**
MIT Taught three recitation sections per week, held weekly office hours, and graded students' exams
- 06/2007 – 08/2007 **Teaching Assistant – Interphase Physics I**
MIT Taught three classes per week, held weekly office hours, and mentored a group of incoming MIT freshmen
- 02/2005 – 05/2005 **Teaching Assistant – Technology Enabled Learning (TEAL) Physics II**
MIT
- 02/2005 – 12/2006 **Laboratory Assistant – Circuits and Electronics**
MIT
- 09/2006 – 12/2006 **Laboratory Assistant – Computational Structures**
MIT

Students Supervised

Ph.D.

- 09/2018 – present **Lei Zhang (School of Information)**
University of Michigan
- 09/2018 – present **(Mauli) Maulishree Pandey (School of Information)**
University of Michigan
- 09/2018 – present **(April) Ye Wang (School of Information)**
University of Michigan (co-advised with Christopher Brooks)
- 09/2017 – present **Rebecca Krosnick (Computer Science & Engineering)**
University of Michigan (ongoing, co-advised with Walter Lasecki)
- 09/2015 – present **Yan Chen (School of Information)**
University of Michigan (ongoing, co-advised with Walter Lasecki)

Ph.D. Thesis Committees

- 2017 **Sang Won Lee (Computer Science and Engineering)**
University of Michigan
- 2017 **Xin Rong (School of Information)**
University of Michigan Neural Language Models for Data-Driven Programming Support

Press

- VentureBeat*, 2014 “Adobe and CMU researchers unveil a brilliant new JavaScript library: ConstraintJS.” June 23
- Wired*, 2013 “Researchers Figure Out How You Can Type on a Smartwatch.” May 1
- Slashdot*, 2013 “CMU Offers Wee QWERTY Texting Tech for Impossibly Tiny Devices.” May 1
- Gizmodo*, 2013 “How Typing on a Smart Watch Might Actually Make Sense.” April 29
- MIT Tech Rev.*, 2013 “A QWERTY Keyboard for Your Wrist.” April 27

Patent

- 11/2016 US Patent number 9,495,134. “Methods and Apparatus for Code Segment Handling”
Brandt, J. & Oney, S.