

**MASSACHUSETTS INSTITUTE OF TECHNOLOGY
FACULTY PERSONNEL RECORD**

Date: April 9, 2017

Full Name: Robert C Miller

Department: Dept of Electrical
Engineering & Computer Science

1. Date of Birth: November 1972

2. Citizenship: United States

3. Education:

School	Degree	Date
MIT	Bachelor Of Science	June 1995
MIT	Master Of Engrng	June 1995
Carnegie Mellon	Doctor Of Phil	May 2002

4. Title of Thesis for Most Advanced Degree: Lightweight Structure in Text

5. Principal Fields of Interest:

Human-computer interaction; User interfaces; Software engineering; Crowdsourcing, human computation, social computing; Programming environments; Online education

6. Name and Rank of Other Department Faculty in the Same Field:

None

7. Name and Rank of Faculty in Other Departments in the Same Field:

None

8. Non-MIT Experience (including military service):

Employer	Position	Beginning	Ending
Searchcraft Inc.	Software Engineer	January 1988	August 1990
Microsoft	Software Dev. Intern	June 1993	August 1993
Microsoft Research	Software Dev. Intern	June 1994	August 1994
Carnegie Mellon	Research Assistant	September 1995	May 2002
DEC Systems Research Center	Research Intern	June 1997	August 1997

9. History of MIT Appointments:

Title	Department	Beginning	Ending
Assistant Professor	Dept of Electrical Engineering & Computer Science	July 2002	June 2006
Associate Professor without tenure	Dept of Electrical Engineering & Computer Science	July 2006	June 2009
Associate Professor with tenure	Dept of Electrical Engineering & Computer Science	July 2009	June 2013
Professor	Dept of Electrical Engineering & Computer Science	July 2013	-

10. Consulting Record:

None

11. Department and Institute Committees, Other Assigned Duties:

Organization / Activity Description	Beginning	Ending
EECS, Education Committee	September 2003	May 2004
EECS, Undergraduate Advisor	September 2003	-
EECS, Graduate Admissions	December 2005	February 2006
EECS, Information Science Committee	April 2007	July 2011
CSAIL, Web Site Redesign Committee	February 2008	December 2008
CSAIL, CSAIL Executive Committee	July 2009	July 2011
EECS, Co-chair, Area II graduate admissions	December 2009	April 2010
EECS, Faculty search committee	December 2010	May 2011
EECS, Course evaluation revision committee	February 2011	July 2011
EECS, Chair, EECS website redesign committee	July 2011	June 2012
EECS, EECS education strategic working group	July 2011	December 2011
CSAIL, Associate Director	September 2012	September 2013
Chancellor's Office, Chancellor's Advisory Group	October 2012	March 2014
EECS, Education Officer	July 2014	-
Sexual Misconduct Prevention and Response, Committee on (Regular)	October 2015	June 2018
Website redesign committee (Regular Member)	August 2016	-
CUP Working Group on Undergraduate Majors (Regular Member)	April 2017	-

12. Professional Service:

Organization / Activity Description	Beginning	Ending
UIST, CHI, WWW, TOCHI, IUI, VL/HCC SOUPS reviewer	January 2001	-
USENIX 2001 program committee	January 2001	February 2001
NSF award panel	January 2003	February 2003
CADUI 2003 program committee	October 2003	December 2003
AAAI 2004 Pen-Based Interaction program committee	April 2004	December 2004
UIST 2005 program committee	March 2005	June 2005
ICSE 2005 End-user SW Engineering Workshop committee	March 2005	April 2005
NSF award panel	November 2005	December 2005
WWW 2005 program committee	November 2005	May 2005
Co-chair, AAAI 2006 Intelligent Systems Demonstrations	January 2006	April 2006

Organization / Activity Description	Beginning	Ending
SOUPS2006 Security User Studies workshop	February 2006	July 2006
NSF award panel	August 2006	September 2006
Co-chair, CHI 2007 Student Research Competition	September 2006	April 2007
Co-chair, WWW 2007 Browsers & UI track	December 2006	May 2007
Co-chair, AAAI 2007 Intelligent Systems Demonstrations	January 2007	April 2007
SOUPS 2007 program committee	March 2007	July 2007
eCrime 2007 program committee	May 2007	October 2007
WWW 2008 program committee	November 2007	May 2008
SOUPS 2008 program committee	February 2008	July 2008
UIST 2008 program committee	April 2008	June 2008
Co-chair, SOUPS 2008 poster track	May 2008	July 2008
IUI 2008 senior program committee	May 2008	November 2008
IS-EUD 2008 program committee	August 2008	November 2008
Co-chair, CHI 2009 Student Research Competition	January 2009	April 2009
SOUPS 2009 program committee	February 2009	July 2009
UIST 2009 program committee	April 2009	June 2009
Co-chair, SOUPS 2009 poster track	May 2009	July 2009
CHI 2010 program committee	September 2009	December 2009
Co-chair, UIST 2010 program committee	December 2009	October 2010
VL/HCC 2009 program committee	April 2010	May 2010
CHI 2011 program committee	September 2010	December 2010
General chair, UIST 2012	October 2010	October 2012
WWW 2011 program committee	November 2010	February 2011
Co-organizer, CHI 2011 workshop on Crowdsourcing & Human Computation	December 2010	May 2011
VL/HCC 2011 program committee	April 2011	May 2011
EC 2011 Workshop on Social Media & User-Generated Content program committee	April 2011	June 2011
HCOMP 2011 workshop program committee	April 2011	July 2011
HCOMP 2010 workshop program committee	April 2011	August 2011
TOCHI associate editor	July 2011	June 2014
FutureCSD 2012 program committee	October 2011	February 2012
NSF award panel	December 2011	February 2012
HCOMP 2012 workshop program committee	January 2012	July 2012

Organization / Activity Description	Beginning	Ending
WWW 2013 program committee	November 2012	December 2012
UIST 2013 program committee	April 2013	June 2013
CHI 2014 program committee	September 2013	February 2014
Learning @ Scale 2014 program committee	November 2013	February 2014
Learning @ Scale 2016 program committee	October 2015	February 2016
UIST 2016 program committee	March 2016	August 2016
Learning @ Scale 2017 program committee	October 2016	February 2017

13. Awards Received:

Award	Date
National Merit Scholarship	May 1990
Microsoft Technical Scholarship	May 1993
NDSEG Fellowship	April 1995
USENIX 1999 Outstanding Paper Award	June 1999
USENIX 2000 Best Student Paper Award	June 2000
CMU SCS Distinguished Dissertation Award	November 2002
ACM Doctoral Dissertation, honorable mention	November 2002
NSF CAREER Award	March 2005
National Science Foundation Faculty Early Career Development (CAREER) Award	April 2005
UIST 2005 Best Paper Award	October 2005
Louis Smullins Award for Teaching Excellence	May 2007
NBX Career Development Associate Professorship	July 2007
UIST 2009 Best Student Paper Award	October 2009
UIST 2010 Best Student Paper Award	October 2010
UIST 2010 Best Paper Award	October 2010
Jamieson Prize for Excellence in Teaching	May 2011

14. Current Organization Memberships:

Organization / Activity Description	Offices Held (if any)	Beginning	Ending
Phi Beta Kappa		-	-
Association of Computing Machinery		-	-

16. Patents and Patent Applications Pending:

None

16. Professional Registration:

None

17. Major New Products, Processes, Designs or Systems:

None

Educational Contributions Other Than Classroom Teaching of Robert C Miller

1. Teaching materials developed that illustrate teaching effectiveness or innovativeness (e.g., course syllabi, lecture or recitation content, course handouts, student assignments, educational technology modules):

- i. New advanced-undergraduate/introductory-graduate course, 6.813/6.831 User Interface Design and Implementation, developed in Fall 2003 and taught annually ever since. New materials included syllabus, lectures, detailed lecture notes, multi-phase term project, and programming problem sets.
- ii. New sophomore-level course, 6.005 Elements of Software Construction, in cooperation with Prof. Daniel Jackson. New materials included lectures, significant code examples for lectures, and two-week programming projects.
- iii. Developed and deployed a new peer-code-reviewing system for 6.005, giving students faster feedback on their programs and drawing alumni back into the course.
- iv. Recitation notes and exercises for 6.001 Structure & Interpretation of Computer Programs, which have been heavily used by subsequent recitation instructors.
- v. New lectures on usability for 6.170 Lab in Software Engineering, including detailed lecture notes, and presented by me as a guest lecturer every term since Fall 2002.

2. Education contributions, apart from classroom performance and supervision, such as new educational programs and curricula developed by the candidate (reference pertinent education publications or presentations in other sections of the FPR):

- i. UPOP: taught Specifications module, 2010-2017.
- ii. **6.811 Principles and Practice of Assistive Technology.** In collaboration with Prof. Seth Teller, I helped create a new interdisciplinary undergraduate project course on assistive technology. The course is unusual in that each student group is matched with a particular client with a disability, and they must understand the client's needs and develop a prototype solution. The pilot iteration in fall 2011 had seventeen students from several engineering majors helping eight clients, with needs ranging from a new wheelchair cushion, to improved balance awareness after an amputation, to better voice control for email. Although Prof. Teller was primary, I helped design the syllabus and plan the project, taught two lectures, and served on the project review panel.
- iii. **6.005 Elements of Software Construction** is a foundation-level undergraduate course that provides the first substantial programming experience to sophomore computer science majors. Developed by Prof. Daniel Jackson and me in 2007 to replace 6.170, the course has a novel structure that covers three paradigms, each roughly a third of the course: *state machine programming*, which regards programs as finite state machines; *symbolic programming*, using functions over immutable data types; and *relational programming*, in which relations among mutable data objects are central. The course also aims to give students exposure to skills needed for today's software world, including the Java language, network sockets, threads, and graphical user interfaces for both the desktop and the Web. I have lectured 6.005 four times since it was introduced, originating half the lectures, helping to shape the programming projects and problem sets, and writing many example programs to accompany my lectures, including a "little language" embedded in Java for generating repetitive music, like rounds, canons, and fugues. I have also led the development and deployment of new tools in the course, such as the Collabode development environment (mentioned previously) and the Caesar code reviewing system, which allows students, alumni, and teaching staff to review and comment on student code.
- iv. **6.470 IAP Web Programming Competition** is a new course/competition for MIT's January Independent Activities Period. The course teaches web programming (HTML, CSS, Javascript, PHP, and SQL) and design techniques (usability and database design), and then challenges small teams of students to build a database-backed, interactive web site in less than four weeks, competing for prizes from a panel of judges. Like similar IAP competitions, the course is organized and taught by students, but I founded it in 2007 – recruiting the initial team of student organizers, raising money from sponsors, recruiting judges, serving as a judge myself, and teaching a guest lecture on usability for several years. Now in its fifth iteration (Jan 2012), the course is completely student-run, teaches over 100 students, and offers \$40,000 in prizes funded by half a dozen sponsors, among them Microsoft, Facebook, and Quora.
- v. **6.813/831 User Interface Design and Implementation** is an advanced undergraduate and introductory-graduate-level course on human-computer interaction, which I created in Fall 2003. It was the first course of its kind at MIT, but draws ideas from similar courses at Carnegie Mellon and Berkeley. The course content covers design principles (learnability, visibility, efficiency, simplicity, etc.), design techniques (user-centered design, task analysis, prototyping, heuristic evaluation, predictive evaluation, etc.), and implementation techniques (model-view-controller pattern, event handling, drawing, etc.). The centerpiece of the course is a user-centered design project that gives students hands-on experience

applying the principles and techniques. The project lasts for the entire semester, with milestones involving different deliverables (including design documents and several prototypes) and different methods of evaluation (including user testing and heuristic evaluation). By the end of the semester, students have iterated over their designs at least three times, giving direct experience with the benefits of iterative design, rapid prototyping, and constant user-centered evaluation.

The course includes a set of lecture notes, consisting of PowerPoint slides with detailed commentary, which are consistently praised by students. The notes have been published in MIT OpenCourseWare as well as on the 6.831 web site, and some of them have been used in courses at Berkeley, Northwestern, and other schools.

Enrollment in 6.813/6.831 has been strong, initially 35 students in 2003 and rising to over 200 students in 2014, indicating a substantial interest for this material among the students. Industry demand for these skills is likewise strong. Alumni of the course who went on to jobs at Google, Yahoo, Microsoft, Oracle, and Facebook have told me that they used what they learned in 6.831 when interviewing for their jobs, and have drawn on it many times since.

- vi. **6.170 Laboratory in Software Engineering** was formerly a required course for MIT computer science majors, teaching concepts and techniques for developing medium- to large-scale software systems. In fall 2002, I created a two-lecture unit that exposed 6.170 students to basic concepts and techniques for designing usable interfaces. These usability lectures became a regular staple of the 6.170 syllabus, and I delivered them myself for 11 semesters until the last time the course was offered in fall 2007.
- vii. **6.MITx Building MITx Courseware for Science and Engineering.** Co-developed with Chris Terman and Fredo Durand, this summer UROP program for MIT undergraduates teaches the web programming skills necessary to build sophisticated browser-based tools for use in online courses like those offered through MITx, and then has the UROP students work together to build those tools. The inaugural class in summer 2013 had 17 UROP students, funded by edX, Quanta Computer, and MIT EECS, and they built or contributed to over a dozen apps and tools.
<http://web.mit.edu/6.mitx/www/>

3. Contributions to the Educational Commons:

- i. Co-founder and faculty advisor for 6.470 IAP Web Programming Competition, 2008-2010. Recruited the initial team of student organizers, raised money from sponsors, recruited judges (and served as a judge myself), and taught guest lectures on usability.

Publications of Robert C Miller

1. Books

None

2. Papers in Refereed Journals

	Publication Name	Publication Date
2.1	Myers, B. A., R. G. McDaniel, R. C. Miller, A. Ferreny, A. Faulring, B. D. Kyle, A. Mickish, A. Klimovitski, and P. Doane, "The Amulet Environment: New Models for Effective User Interface Software Development," IEEE Transactions on Software Engineering, v23 n6, pp. 347—365, June 1997.	June 1997
2.2	Vander Zanden, B. T., R. Halterman, B. A. Myers, R. McDaniel, R. Miller, P. Szekely, D. Giuse, and D. Kosbie, "Lessons Learned About One-Way, Dataflow Constraints in the Garnet and Amulet Graphical Toolkits," ACM Transactions on Programming Languages and Systems, v23 n6, pp. 776—796, November 2001.	November 2001
2.3	B. A. Myers, J. Nichols, J. O. Wobbrock, R. C. Miller "Taking handheld devices to the next level" Computer 37.12 (2004): 36-43. Print.	January 2004
2.4	B. T. Vander Zanden, R. Halterman, B. A. Myers, R. Miller, P. Szekely, D. A. Giuse, D. Kosbie, R. Mcdaniel "Lessons learned from programmers' experiences with one-way constraints" Software - Practice and Experience 35.13 (2005): 1275-1298. Print.	January 2005
2.5	M. Bolin, R. C. Miller "Naming page elements in end-user web automation" ACM SIGSOFT Software Engineering Notes 30.4 (2005): 1. Print.	January 2005
2.6	D. F. Huynh, R. C. Miller, D. R. Karger "Potluck: Data mash-up tool for casual users" Web Semantics 6.4 (2008): 274-282. Print.	January 2008
2.7	Little, G., and R. C. Miller. "Keyword Programming in Java." Journal of Automated Software Engineering, v16 n1, pp. 37-71. 2009.**	January 2009
2.8	M. Goldman, R. C. Miller "Codetrail: Connecting source code and web resources" Journal of Visual Languages and Computing 20.4 (2009): 223-235. Print.	January 2009
2.9	G. Little, R. C. Miller "Keyword programming in Java" Automated Software Engineering 16.1 (2009): 37-71. Print.	January 2009
2.10	Goldman, M. and R. C. Miller. "Codetrail: Connecting Source Code and Web Resources." Journal of Visual Languages and Computing, v20 n4, pp 223-235. August 2009.**	August 2009
2.11	R. C. Miller, G. Little, M. Bernstein, J. P. Bigham, L. B. Chilton, M. Goldman, J. J. Horton, R. Nayak "Heads in the cloud" XRDS: Crossroads, The ACM Magazine for Students 17.2 (2010): 27. Print.	January 2010
2.12	S. Han, D. R. Wallace, R. C. Miller "Code completion of multiple keywords from abbreviated input" Automated Software Engineering 18.3-4 (2011): 363-398. Print.	January 2011
2.13	A. Marcus, D. Karger, S. Madden, R. Miller, S. Oh "Counting with the crowd" Proceedings of the VLDB Endowment [21508097] 6.2 (2012): 109-120. Print.	January 2012
2.14	A. Marcus, M. S. Bernstein, O. Badar, D. R. Karger, S. Madden, R. C. Miller "Processing and visualizing the data in tweets" ACM SIGMOD Record 40.4 (2012): 21. Print.	January 2012
2.15	E. Bakke, D. R. Karger, R. C. Miller "Automatic Layout of Structured Hierarchical Reports" IEEE Transactions on Visualization and Computer Graphics 19.12 (2013): 2586-2595. Print.	January 2013

	Publication Name	Publication Date
2.16	E. L. Glassman, J. Scott, R. Singh, P. J. Guo, R. C. Miller "OverCode: Visualizing Variation in Student Solutions to Programming Problems at Scale" ACM Transactions on Computer-Human Interaction [10730516] 22.2 (2015): 1-35. Print.	January 2015
2.17	M. S. Bernstein, G. Little, R. C. Miller, B. Hartmann, M. S. Ackerman, D. R. Karger, D. Crowell, K. Panovich "Soylent: a word processor with a crowd inside" Communications of the ACM [00010782] 58.8 (2015): 85-94. Print.	January 2015
2.18	Carrie J. Cai, Anji Ren, Robert C. Miller. "WaitSuite: Productive Use of Diverse Waiting Moments." Transactions on Computer-Human Interaction (ACM TOCHI).	2017

3. Proceedings of Refereed Conferences

	Publication Name	Publication Date
3.1	Myers, B. A., F. Modugno, R. McDaniel, D. Kosbie, A. Werth, R. C. Miller, J. Pane, J. Landay, J. Goldstein, and M. A. Goldberg, "The Demonstrational Interfaces Project at CMU," 1996 AAAI Spring Symposium on Acquisition, Learning and Demonstration: Automating Tasks for Users, Technical Report SS-96-02, pp. 85—91, March 1996.	March 1996
3.2	Myers, B. A., R. C. Miller, R. McDaniel, and A. Ferency, "Easily Adding Animations to Interfaces Using Constraints," Proceedings of the 9th ACM Symposium on User Interface Software and Technology (UIST '96), pp. 119—128, November 1996.	November 1996
3.3	Miller, R. C. and K. Bharat, "SPHINX: A Framework for Creating Personal, Site-Specific Web Crawlers," Proceedings of the Seventh International World Wide Web Conference (WWW7), April 1998, in Computer Network and ISDN Systems, v30, pp. 119—130, 1998.	April 1998
3.4	Berger, A. and R. C. Miller, "Just-in-time Language Modelling," Proceedings of the International Conference on Acoustics, Speech, and Signal Processing (ICASSP '98), pp. 705—708, May 1998.	May 1998
3.5	Miller, R. C. and B. A. Myers, "Lightweight Structured Text Processing," Proceedings of 1999 USENIX Annual Technical Conference, pp. 131—144, June 1999.	June 1999
3.6	Miller, R. C. and B. A. Myers, "Synchronizing Clipboards of Multiple Computers," Proceedings of the 12th ACM Symposium on User Interface Software and Technology (UIST '99), pp. 65—66, November 1999.	November 1999
3.7	Miller, R. C. and B. A. Myers, "Integrating a Command Shell into a Web Browser," Proceedings of USENIX 2000 Annual Technical Conference, pp. 171—182, June 2000.	June 2000
3.8	Myers, B. A., R. C. Miller, B. Bostwick, and C. Evankovich, "Extending the Windows Desktop Interface With Connected Handheld Computers," Proceedings of the 4th USENIX Windows Systems Symposium, pp. 79—88, August 2000.	August 2000
3.9	Miller, R. C. and B. A. Myers, "Interactive Simultaneous Editing of Multiple Text Regions," Proceedings of USENIX 2001 Annual Technical Conference, pp. 161—174, June 2001.	June 2001
3.10	Myers, B. A., C. H. Peck, J. Nichols, D. Kong, and R. Miller, "Interacting At a Distance Using Semantic Snarfing," Proceedings of the Third International Conference on Ubiquitous Computing (UbiComp 2001), pp. 305—314, Sept. 2001.	September 2001
3.11	Miller, R. C. and B. A. Myers, "Outlier Finding: Focusing User Attention on Possible Errors," Proceedings of the 14th ACM Symposium on User Interface Software and Technology (UIST 2001), pp. 81—90, November 2001.	November 2001

	Publication Name	Publication Date
3.12	Miller, R. C. and B. A. Myers, "Multiple Selections in Smart Text Editing," Proceedings of the 6th International Conference on Intelligent User Interfaces (IUI 2002), pp. 103—110, January 2002.	January 2002
3.13	Myers, B. A., R. Bhatnagar, J. Nichols, C. H. Peck, D. Kong, R. Miller, and A. C. Long, "Interacting At a Distance: Measuring the Performance of Laser Pointers and Other Devices," Conference on Human Factors in Computing Systems (CHI 2002), pp. 33—40, April 2002.	April 2002
3.14	Miller, R. C. and B. A. Myers, "LAPIS: Smart Editing With Text Structure," CHI '02 Extended Abstracts on Human Factors in Computer Systems, pp. 496—497, April 2002.	April 2002
3.15	Quan, D., D. Huynh, D. R. Karger, and R. Miller, "User Interface Continuations," Proceedings of the ACM Symposium on User Interface Software and Technology (UIST 2003), pp. 145-148, October 2003. **	October 2003
3.16	A. M. Marshall, R. C. Miller "Cluster-based find and replace" conference on Human factors in computing systems (CHI) . (2004): 57-64. Print.	January 2004
3.17	Miller, R. C. and A. A. Marshall, "Cluster-based Find & Replace," Conference on Human Factors in Computing Systems (CHI 2004), pp. 57—64, April 2004. **	April 2004
3.18	Notowidigdo, M. and R. C. Miller, "Off-line Sketch Interpretation," Proceedings of AAAI Fall Symposium on Making Pen-Based Interaction Intelligent and Natural, pp. 120-126, October 2004. **	October 2004
3.19	M. Bolin, R. C. Miller "Naming page elements in end-user web automation" workshop on End-user software engineering (WEUSE) . (2005): 1-5. Print.	January 2005
3.20	R. C. Miller, S. L. Garfinkel, D. Margrave, E. Nordlander, J. I. Schiller "Views, Reactions and Impact of Digitally-Signed Mail in e-Commerce" ConfProc-Financial Cryptography and Data Security 3570. (2005): 188-202. Print.	January 2005
3.21	R. C. Miller, S. L. Garfinkel "Johnny 2: a user test of key continuity management with S/MIME and Outlook Express" symposium on Usable privacy and security (SOUPS) . (2005): 13-24. Print.	January 2005
3.22	M. Webber, R. C. Miller, P. Rha, T. Wilson, M. Bolin "Automation and customization of rendered web pages" ACM symposium on User interface software and technology (UIST) . (2005): 163. Print.	January 2005
3.23	J. I. Schiller, D. Margrave, E. Nordlander, S. L. Garfinkel, R. C. Miller "How to make secure email easier to use" conference on Human factors in computing systems (SIGCHI) . (2005): 701. Print.	January 2005
3.24	D. Karger, R. Miller, V. Sinha "Incremental exploratory visualization of relationships in large codebases for program comprehension" ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications (OOPSLA) . (2005): 198. Print.	January 2005
3.25	R. Miller, D. Karger, V. Sinha "Relo: helping users manage context during interactive exploratory visualization of large codebases" OOPSLA workshop on eclipse technology eXchange - eclipse . (2005): 21-25. Print.	January 2005
3.26	V. Sinha, R. Miller, D. Karger "Incremental exploratory visualization of relationships in large codebases for program comprehension" ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications (OOPSLA) . (2005): 116. Print.	January 2005
3.27	Garfinkel, S. L., J. I. Schiller, E. Nordlander, D. Margrave, and R. C. Miller, "Views, Reactions, and Impact of Digitally-Signed Mail in e-Commerce," Proceedings of the Ninth International Conference on Financial Cryptography and Data Security (FC 2005), pp. 188-202, February 2005. **	February 2005

	Publication Name	Publication Date
3.28	Garfinkel, S. L., E. Nordlander, R. C. Miller, D. Margrave, J. I. Schiller, "How to Make Secure Email Easier to Use," Proceedings of the Conference on Human Factors in Computing Systems (CHI 2005), April 2005, pp. 701-710. **	April 2005
3.29	Garfinkel, S. L. and R. C. Miller, "Johnny 2: A User Test of Key Continuity Management with S/MIME and Outlook Express," Proceedings of the Symposium on Usable Privacy and Security (SOUPS 2005), pp. 13-24, July 2005. **	July 2005
3.30	Bolin, M., M. Webber, P. Rha, T. Wilson, and R. C. Miller, "Automation and Customization of Rendered Web Pages," ACM Conference on User Interface Software and Technology (UIST 2006), pp. 191-200. October 2005. **	October 2005
3.31	Wu, M., R. C. Miller and S. L. Garfinkel, "Do Security Toolbars Actually Prevent Phishing Attacks?" Conference on Human Factors in Computing Systems (CHI 2006), pp. 601-610, 2006. **	January 2006
3.32	Sinha, V., D. Karger, and Rob Miller, "Relo: Helping Users Manage Context During Interactive Exploratory Visualization of Large Codebases," Proceedings of Visual Languages and Human-Centric Computing (VL/HCC 2006), pp. 187-194, 2006. **	January 2006
3.33	Huynh, D., R. C. Miller, and D. R. Karger, "Enabling Web Browsers to Augment Web Sites' Filtering and Sorting Functionalities," ACM Conference on User Interface Software and Technology (UIST 2006), pp. 125-134, 2006. **	January 2006
3.34	Little, G., and R. C. Miller, "Translating Keyword Commands into Executable Code," ACM Conference on User Interface Software and Technology (UIST 2006), pp 135-144, 2006. **	January 2006
3.35	Wu, M., R. C. Miller and G. Little, "Web Wallet: Preventing Phishing Attacks by Revealing User Intentions," Symposium on Usable Privacy and Security (SOUPS 2006), pp. 102-113, 2006. **	January 2006
3.36	G. Little, M. Wu, R. C. Miller "Web wallet: preventing phishing attacks by revealing user intentions" symposium on Usable privacy and security (SOUPS) . (2006): 102. Print.	January 2006
3.37	V. Sinha, D. Karger, R. Miller "Relo: Helping Users Manage Context during Interactive Exploratory Visualization of Large Codebases" Visual Languages and Human-Centric Computing (VL/HCC) . (2006): 187-194. Print.	January 2006
3.38	S. L. Garfinkel, R. C. Miller, M. Wu "Do security toolbars actually prevent phishing attacks?" conference on Human factors in computing systems (SIGCHI) . (2006): 601. Print.	January 2006
3.39	D. R. Karger, D. F. Huynh, R. C. Miller "Enabling web browsers to augment web sites' filtering and sorting functionalities" ACM symposium on User interface software and technology - UIST . (2006): 125. Print.	January 2006
3.40	G. Little, R. C. Miller "Translating keyword commands into executable code" ACM symposium on User interface software and technology - UIST . (2006): 135. Print.	January 2006
3.41	Huynh, D. F., R. C. Miller, and D. Karger, "Exhibit: Lightweight Structured Data Publishing," Proceedings of the 16th International World Wide Web Conference (WWW 2007), pp. 737-746, 2007. **	January 2007
3.42	Hupp, D., and R. C. Miller, "Smart Bookmarks: Automatic Retroactive Macro Recording on the Web," Proceedings of User Interface Software and Technology (UIST 2007), pp. 81-90, 2007. **	January 2007
3.43	Little, G., and R. C. Miller, "Keyword Programming in Java," Proceedings of Automated Software Engineering (ASE 2007), pp. 84-93, 2007. **	January 2007

	Publication Name	Publication Date
3.44	Huynh, D. F., R. C. Miller, and D. Karger, "Potluck: Data Mash-Up Tool for Casual Users," Proceedings of the International Semantic Web Conference (ISWC 2007), pp. 239-252, 2007. **	January 2007
3.45	Lieberman, E., and R. C. Miller, "Facemail: Showing Faces of Recipients to Prevent Misdirected Email," Symposium on Usable Privacy and Security (SOUPS 2007), pp. 102-113, 2007. **	January 2007
3.46	N. Ragouzis, R. C. Miller, J. King, S. Egelman, E. Shehan "Security user studies: methodologies and best practices" Human factors in computing systems (CHI) . (2007): 2833. Print.	January 2007
3.47	R. C. Miller, D. Hupp "Smart bookmarks: automatic retroactive macro recording on the web" ACM symposium on User interface software and technology (UIST) . (2007): 81. Print.	January 2007
3.48	R. C. Miller, D. F. Huynh, D. R. Karger "Potluck: Semi-ontology Alignment for Casual Users" ConfProc-The Semantic Web 4825. (2007): 903-910. Print.	January 2007
3.49	D. R. Karger, R. C. Miller, D. F. Huynh "Potluck: Data Mash-Up Tool for Casual Users" ConfProc-The Semantic Web 4825. (2007): 239-252. Print.	January 2007
3.50	R. C. Miller, E. Lieberman "Facemail: showing faces of recipients to prevent misdirected email" symposium on Usable privacy and security - SOUPS . (2007): 122. Print.	January 2007
3.51	R. C. Miller, G. Little "Keyword programming in java" IEEE/ACM International Conference on Automated Software Engineering (ASE) . (2007): 84. Print.	January 2007
3.52	R. C. Miller, D. R. Karger, D. F. Huynh "Exhibit: lightweight structured data publishing" international conference on World Wide Web (WWW) . (2007): 737. Print.	January 2007
3.53	Goldman, M. and R.C. Miller. "Codetrail: Connecting Source Code and Web Resources." Proceedings of Visual Languages and Human-Centric Computing (VL/HCC 2008), pp. 65-72, 2008.**	January 2008
3.54	Miller, R.C., V. Chou, M. Bernstein, G. Little, M. Van Kleek, D. Karger, and mc schraefel. "Inky: A Sloppy Command Line for the Web." Proceedings of User Interface Software and Technology (UIST 2008), pp. 131-140, 2008.**	January 2008
3.55	G. Little, D. Karger, M. Bernstein, V. H. Chou, M. Schraefel, M. Van Kleek, R. C. Miller "Inky: a sloppy command line for the web with rich visual feedback" ACM symposium on User interface software and technology - UIST . (2008): 131. Print.	January 2008
3.56	M. Goldman, R. C. Miller "Codetrail: Connecting source code and web resources" IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC) . (2008): 65-72. Print.	January 2008
3.57	E. S. Liongosari, E. L. Murnane, V. Sinha, D. Karger, S. W. Kurth, R. Miller "Understanding code architectures via interactive exploration and layout of layered diagrams" Companion to the ACM SIGPLAN conference on Object oriented programming systems languages and applications - OOPSLA Companion . (2008): 745. Print.	January 2008
3.58	S. W. Kurth, E. L. Murnane, D. Karger, E. S. Liongosari, R. Miller, V. Sinha "Understanding code architectures via interactive exploration and layout of layered diagrams" Companion to the ACM SIGPLAN conference on Object oriented programming systems languages and applications - OOPSLA Companion . (2008): 775. Print.	January 2008
3.59	Sangmok Han, David R. Wallace, and Robert C. Miller. "Code Completion From Abbreviated Input." Proceedings of Automated Software Engineering (ASE 2009), pp. 332-343, 2009.**	January 2009
3.60	Tom Yeh, Tsung-Hsiang Chang, and Robert C. Miller. "Sikuli: Using GUI Screenshots for Search and Automation." Proceedings of User Interface Software and Technology (UIST 2009), pp. 183-192, 2009.**	January 2009

	Publication Name	Publication Date
3.61	M. Goldman, L. B. Chilton, G. Little, C. T. Sims, R. C. Miller "Seaweed: a web application for designing economic games" ACM SIGKDD Workshop on Human Computation - HCOMP . (2009): 34. Print.	January 2009
3.62	S. Han, D. R. Wallace, R. C. Miller "Code Completion from Abbreviated Input" IEEE/ACM International Conference on Automated Software Engineering (ASE) . (2009): 332-343. Print.	January 2009
3.63	T. H. Chang, T. Yeh, R. C. Miller "Sikuli: using GUI screenshots for search and automation" ACM symposium on User interface software and technology - UIST . (2009): 183. Print.	January 2009
3.64	L. B. Chilton, G. Little, R. C. Miller, M. Goldman "TurKit: tools for iterative tasks on mechanical Turk" ACM SIGKDD Workshop on Human Computation - HCOMP . (2009): 29. Print.	January 2009
3.65	Michael Bernstein, Adam Marcus, David R. Karger, and Robert C. Miller. "Understanding and Supporting Directed Content Sharing on the Web." 10 pages, 2010. **	January 2010
3.66	Jeffrey Bigham, Chandrika Jayant, Hanjie Ji, Greg Little, Andrew Miller, Robert C. Miller, Robin Miller, Aubrey Tatarowicz, Brandyn White, Samuel White, and Tom Yeh. "VizWiz: Nearly Real-Time Answers to Visual Questions." Proceedings of User Interface Software and Technology (UIST 2010), 10 pages, 2010.	January 2010
3.67	Michael Bernstein, Greg Little, Robert C. Miller, Bjoern Hartmann, Mark S. Ackerman, David R. Karger, David Crowell, and Katrina Panovich. "Soylent: A Word Processor with a Crowd Inside." Proceedings of User Interface Software and Technology (UIST 2010), 10 pages, 2010. **	January 2010
3.68	Greg Little, Lydia B. Chilton, Max Goldman, and Robert C. Miller. "TurKit: Human Computation Algorithms on Mechanical Turk." Proceedings of User Interface Software and Technology (UIST 2010), 10 pages, 2010. **	January 2010
3.69	Greg Little, Lydia B. Chilton, Max Goldman, and Robert C. Miller. "Exploring iterative and parallel human computation processes." Proceedings of the ACM SIGKDD Workshop on Human Computation (HCOMP 2010), 9 pages, 2010.**	January 2010
3.70	Lydia B. Chilton, John J. Horton, Robert C. Miller, and Shiri Azenkot. "Task search in a human computation market." Proceedings of the ACM SIGKDD Workshop on Human Computation (HCOMP 2010), 9 pages, 2010.	January 2010
3.71	Tsung-Hsiang Chang, Tom Yeh, and Robert C. Miller. "GUI Testing Using Computer Vision." Conference on Human Factors in Computing Systems (CHI 2010), 10 pages, 2010.**	January 2010
3.72	Chen-Hsiang Yu and Robert C. Miller. "Enhancing Web Page Readability for Non-native Readers." Conference on Human Factors in Computing Systems (CHI 2010), 10 pages, 2010. **	January 2010
3.73	C. H. Yu, R. C. Miller "Enhancing web page readability for non-native readers" international conference on Human factors in computing systems - CHI . (2010): 2523. Print.	January 2010
3.74	T. H. Chang, T. Yeh, R. C. Miller "GUI testing using computer vision" international conference on Human factors in computing systems - CHI . (2010): 1535. Print.	January 2010
3.75	H. Ji, G. Little, C. Jayant, J. P. Bigham, B. White, R. C. Miller, A. Miller, T. Yeh, A. Tatarowicz, S. White "VizWiz: nearly real-time answers to visual questions" International Cross Disciplinary Conference on Web Accessibility (W4A) - W4A . (2010): 1. Print.	January 2010
3.76	R. C. Miller, M. Goldman "Test-driven roles for pair programming" ICSE Workshop on Cooperative and Human Aspects of Software Engineering - CHASE . (2010): 13-20. Print.	January 2010

	Publication Name	Publication Date
3.77	C. Jayant, J. P. Bigham, B. White, R. Miller, G. Little, H. Ji, A. Tatarowicz, T. Yeh, R. C. Miller, A. Miller, et al. "VizWiz: nearly real-time answers to visual questions" ACM symposium on User interface software and technology - UIST . (2010): 333. Print.	January 2010
3.78	M. Goldman, G. Little, L. B. Chilton, R. C. Miller "TurKit: human computation algorithms on mechanical turk" ACM symposium on User interface software and technology - UIST . (2010): 57. Print.	January 2010
3.79	R. C. Miller, K. Panovich, M. S. Bernstein, G. Little, M. S. Ackerman, D. R. Karger, D. Crowell, B. Hartmann "Soylent: a word processor with a crowd inside" ACM symposium on User interface software and technology - UIST . (2010): 313. Print.	January 2010
3.80	L. B. Chilton, R. C. Miller, S. Azenkot, J. J. Horton "Task search in a human computation market" ACM SIGKDD Workshop on Human Computation - HCOMP . (2010): 1. Print.	January 2010
3.81	M. Goldman, R. C. Miller, L. B. Chilton, G. Little "Exploring iterative and parallel human computation processes" ACM SIGKDD Workshop on Human Computation - HCOMP . (2010): 68. Print.	January 2010
3.82	M. S. Bernstein, R. C. Miller, A. Marcus, D. R. Karger "Enhancing directed content sharing on the web" international conference on Human factors in computing systems - CHI . (2010): 971. Print.	January 2010
3.83	Eirik Bakke, David R. Karger, and Robert C. Miller. "A Spreadsheet-Based User Interface for Managing Plural Relationships in Structured Data." Conference on Human Factors in Computing Systems (CHI 2011), 10 pages, 2011. **	January 2011
3.84	Tsung-Hsiang Chang, Tom Yeh, and Robert C. Miller. "Associating the Visual Representation of User Interfaces with their Internal Structures and Metadata." Proceedings of User Interface Software and Technology (UIST 2011), 10 pages, 2011. **	January 2011
3.85	Max Goldman, Greg Little, and Robert C. Miller. "Real-Time Collaborative Coding in a Web IDE." Proceedings of User Interface Software and Technology (UIST 2011), 10 pages, 2011. **	January 2011
3.86	Michael S. Bernstein, Joel Brandt, Robert C. Miller and David R. Karger. "Crowds in Two Seconds: Enabling Realtime Crowd-Powered Interfaces." Proceedings of User Interface Software and Technology (UIST 2011), 10 pages, 2011. **	January 2011
3.87	Walter S. Lasecki, Kyle I. Murray, Sean White, Robert C. Miller, Jeffrey P. Bigham. "Real-time Crowd Control of Existing Interfaces." Proceedings of User Interface Software and Technology (UIST 2011), 10 pages, 2011.	January 2011
3.88	A. Marcus, O. Badar, S. Madden, M. S. Bernstein, D. R. Karger, R. C. Miller "Twitinfo: aggregating and visualizing microblogs for event exploration" conference on Human factors in computing systems - CHI . (2011): 227. Print.	January 2011
3.89	R. C. Miller, E. Wu, A. Marcus, D. R. Karger, S. Madden "Demonstration of Qurk: a query processor for humanoperators" international conference on Management of data - SIGMOD . (2011): 1315. Print.	January 2011
3.90	R. Miller, E. Bakke, D. Karger "A spreadsheet-based user interface for managing plural relationships in structured data" conference on Human factors in computing systems - CHI . (2011): 2541. Print.	January 2011
3.91	R. C. Miller, E. H. Chi, M. S. Bernstein, M. S. Ackerman "The trouble with social computing systems research" conference extended abstracts on Human factors in computing systems - CHI EA . (2011): 389. Print.	January 2011
3.92	R. C. Miller, S. Ward, H. Pham, J. Mazzola Paluska "Cloudtop: a workspace for the cloud" ACM symposium adjunct on User interface software and technology - UIST Adjunct . (2011): 69. Print.	January 2011

	Publication Name	Publication Date
3.93	M. Bernstein, A. Kittur, L. Chilton, B. Hartmann, R. C. Miller, E. H. Chi "Crowdsourcing and human computation: systems, studies and platforms" conference extended abstracts on Human factors in computing systems - CHI EA . (2011): 53. Print.	January 2011
3.94	R. C. Miller, C. H. Yu "Enhancing mobile browsing and reading" conference extended abstracts on Human factors in computing systems - CHI EA . (2011): 1783. Print.	January 2011
3.95	S. White, W. S. Lasecki, R. C. Miller, K. I. Murray, J. P. Bigham "Real-time crowd control of existing interfaces" ACM symposium on User interface software and technology - UIST . (2011): 23. Print.	January 2011
3.96	T. H. Chang, T. Yeh, R. Miller "Associating the visual representation of user interfaces with their internal structures and metadata" ACM symposium on User interface software and technology - UIST . (2011): 245. Print.	January 2011
3.97	M. Goldman, G. Little, R. C. Miller "Collabode: collaborative coding in the browser" international workshop on Cooperative and human aspects of software engineering - CHASE . (2011): 65. Print.	January 2011
3.98	D. R. Karger, M. S. Bernstein, R. C. Miller, J. Brandt "Crowds in two seconds: enabling realtime crowd-powered interfaces" ACM symposium on User interface software and technology - UIST . (2011): 33. Print.	January 2011
3.99	M. Goldman, G. Little, R. C. Miller "Real-time collaborative coding in a web IDE" ACM symposium on User interface software and technology - UIST . (2011): 155. Print.	January 2011
3.100	R. C. Miller, A. Marcus, O. Badar, M. S. Bernstein, S. Madden, D. R. Karger "Tweets as data: demonstration of TweeQL and Twitinfo" international conference on Management of data - SIGMOD . (2011): 1259. Print.	January 2011
3.101	Adam Marcus, Eugene Wu, David Karger, Samuel Madden, and Robert Miller. "Human-powered Sorts and Joins." Proceedings of the VLDB Endowment, v5 n1, September 2011, 12 pages.**	September 2011
3.102	Katrina Panovich, Rob Miller, David Karger. "Tie Strength in Question and Answer on Social Network Sites." Proceedings of Computer-Supported Cooperative Work (CSCW 2012), 10 pages, 2012.**	January 2012
3.103	Haoqi Zhang, Edith Law, Robert C. Miller, Krzysztof Gajos, David Parkes, and Eric Horvitz. "Human Computation Tasks with Global Constraints." Conference on Human Factors in Computing Systems (CHI 2012), 10 pages, 2012.	January 2012
3.104	Michael Bernstein, David Karger, Rob Miller, Joel Brandt. "Analytic Methods for Optimizing Realtime Crowdsourcing." Proceedings of Collective Intelligence 2012, 8 pages.**	January 2012
3.105	Hubert Pham, Justin Mazzola Paluska, Robert C. Miller, Steve Ward. "Cloudtop: A Platform for Handles to Rich Objects." Proceedings of User Interface Software and Technology (UIST 2012), 11 pages.**	January 2012
3.106	M. Dontcheva, D. Joseph, J. Kim, J. Brandt, B. Malley, K. Z. Gajos, R. C. Miller "Photoshop with friends: a synchronous learning community for graphic design" ACM conference on Computer Supported Cooperative Work Companion - CSCW . (2012): 271. Print.	January 2012
3.107	E. Gerber, M. Bernstein, A. Kittur, M. Dontcheva, P. André, R. Miller "CrowdCamp: rapidly iterating ideas related to collective intelligence & crowdsourcing" ACM conference extended abstracts on Human Factors in Computing Systems Extended Abstracts - CHI EA . (2012): 2687. Print.	January 2012
3.108	S. Ward, R. Miller, J. Mazzola Paluska, H. Pham "Clui: a platform for handles to rich objects" ACM symposium on User interface software and technology - UIST . (2012): 177. Print.	January 2012

	Publication Name	Publication Date
3.109	R. Miller, T. Lieber "Programming with everybody: tightening the copy-modify-publish feedback loop" ACM symposium on User interface software and technology - UIST . (2012): 101. Print.	January 2012
3.110	H. Zhang, E. Law, K. Gajos, R. Miller, E. Horvitz, D. Parkes "Human computation tasks with global constraints" ACM conference on Human Factors in Computing Systems - CHI . (2012): 217. Print.	January 2012
3.111	C. H. Yu, R. C. Miller "Enhancing web page skimmability" ACM conference extended abstracts on Human Factors in Computing Systems Extended Abstracts - CHI EA . (2012): 2655. Print.	January 2012
3.112	K. Yessenov, S. Tulsiani, R. C. Miller, A. Kalai, A. Menon, B. Lampson, S. Gulwani "A colorful approach to text processing by example" ACM symposium on User interface software and technology (UIST) . (2013): 495-504. Print.	January 2013
3.113	E. L. Glassman, R. C. Miller, N. Gulley "Toward facilitating assistance to students attempting engineering design problems" international ACM conference on International computing education research (ICER) . (2013): 41. Print.	January 2013
3.114	R. C. Miller, K. Z. Gajos, J. Kim "Learnersourcing subgoal labeling to support learning from how-to videos" CHI Extended Abstracts on Human Factors in Computing Systems (CHI EA) . (2013): 685. Print.	January 2013
3.115	P. Nguyen, J. Kim, R. C. Miller "Generating annotations for how-to videos using crowdsourcing" CHI Extended Abstracts on Human Factors in Computing Systems (CHI EA) . (2013): 835. Print.	January 2013
3.116	L. B. Chilton, J. Kim, S. P. Dow, H. Zhang, P. André, M. Beaudouin-Lafon, R. C. Miller, W. E. Mackay "Cobi: communitysourcing large-scale conference scheduling" CHI Extended Abstracts on Human Factors in Computing Systems (CHI EA) . (2013): 3011. Print.	January 2013
3.117	P. André, M. Beaudouin-Lafon, R. C. Miller, W. Mackay, S. P. Dow, H. Zhang, L. B. Chilton, J. Kim "Cobi: a community-informed conference scheduling tool" ACM symposium on User interface software and technology (UIST) . (2013): 173-182. Print.	January 2013
3.118	G. Kovacs, R. C. Miller "Foreign manga reader: learn grammar and pronunciation while reading comics" ACM symposium on User interface software and technology (UIST) . (2013): 11-12. Print.	January 2013
3.119	M. Goldman, C. O'brien, R. C. Miller "Java tutor: bootstrapping with python to learn Java" ACM conference on Learning @ scale conference - L@S . (2014): 185-186. Print.	January 2014
3.120	Z. Kabelac, F. Adib, D. Katabi, H. Mao, R. C. Miller "Demo: real-time breath monitoring using wireless signals" international conference on Mobile computing and networking - MobiCom . (2014): 261-262. Print.	January 2014
3.121	C. J. Cai, R. C. Miller, P. J. Guo, K. Z. Gajos, S. W. Li, J. Kim "Data-driven interaction techniques for improving navigation of educational videos" ACM symposium on User interface software and technology - UIST Conference . (2014): 563-572. Print.	January 2014
3.122	P. J. Guo, J. Glass, R. C. Miller, C. J. Cai "Wait-learning: leveraging conversational dead time for second language education" ACM conference on Human factors in computing systems - CHI EA . (2014): 2239-2244. Print.	January 2014
3.123	E. L. Glassman, R. Miller, P. Guo, R. Singh, J. Scott "OverCode: visualizing variation in student solutions to programming problems at scale" adjunct publication of the ACM symposium on User interface software and technology - UISTAdjunct Conference . (2014): 129-130. Print.	January 2014
3.124	J. Kim, J. Kim, A. X. Zhang, R. C. Miller, K. Z. Gajos "Content-aware kinetic scrolling for supporting web page navigation" ACM symposium on User interface software and technology - UIST Conference . (2014): 123-127. Print.	January 2014

	Publication Name	Publication Date
3.125	J. Kim, D. T. Seaton, K. Z. Gajos, P. Mitros, P. J. Guo, R. C. Miller "Understanding in-video dropouts and interaction peaks in online lecture videos" ACM conference on Learning @ scale conference - L@S . (2014): 31-40. Print.	January 2014
3.126	R. Singh, R. C. Miller, E. L. Glassman "Feature engineering for clustering student solutions" ACM conference on Learning @ scale conference - L@S . (2014): 171-172. Print.	January 2014
3.127	D. Xiao, R. C. Miller "A multiplayer online game for teaching software engineering practices" ACM conference on Learning @ scale conference - L@S . (2014): 159-160. Print.	January 2014
3.128	P. J. Guo, R. C. Miller, A. H. Pai "Modeling programming knowledge for mentoring at scale" ACM conference on Learning @ scale conference - L@S . (2014): 181-182. Print.	January 2014
3.129	R. C. Miller, T. Lieber, J. R. Brandt "Addressing misconceptions about code with always-on programming visualizations" ACM conference on Human factors in computing systems - CHI . (2014): 2481-2490. Print.	January 2014
3.130	J. A. Landay, R. C. Miller, P. André, D. S. Weld, H. Zhang, F. Cordeiro, J. Kim, S. P. Dow, L. B. Chilton "Frenzy: collaborative data organization for creating conference sessions" IEEE Human Factors and Power Plants and HPRCT Meeting [Conference] . (2014): 1255-1264. Print.	January 2014
3.131	R. C. Miller, H. Zhang, E. Gilbert, E. Gerber "Pair research: matching people for collaboration, learning, and productivity" ACM conference on Computer supported cooperative work & social computing - CSCW . (2014): 1043-1048. Print.	January 2014
3.132	R. C. Miller, G. Kovacs "Smart subtitles for vocabulary learning" IEEE Human Factors and Power Plants and HPRCT Meeting [Conference] . (2014): 853-862. Print.	January 2014
3.133	K. Z. Gajos, P. T. Nguyen, J. Kim, P. J. Guo, R. C. Miller, S. Weir "Crowdsourcing step-by-step information extraction to enhance existing how-to videos" IEEE Human Factors and Power Plants and HPRCT Meeting [Conference] . (2014): 4017-4026. Print.	January 2014
3.134	E. L. Glassman, C. J. Terman, R. C. Miller "Learner-Sourcing in an Engineering Class at Scale" ACM Conference on Learning @ Scale - L@S . (2015): 363-366. Print.	January 2015
3.135	S. Weir, J. Kim, K. Z. Gajos, R. C. Miller "Learnersourcing Subgoal Labels for How-to Videos" ACM conference on Computer supported cooperative work & social computing - CSCW . (2015): 405-416. Print.	January 2015
3.136	E. L. Glassman, L. Fischer, J. Scott, R. C. Miller "Foobaz: Variable Name Feedback for Student Code at Scale" ACM Symposium on User Interface Software & Technology - UIST [Conference] . (2015): 609-617. Print.	January 2015
3.137	F. Adib, H. Mao, Z. Kabelac, D. Katabi, R. C. Miller "Smart Homes that Monitor Breathing and Heart Rate" ACM conference on Human factors in computing systems - CHI . (2015): 837-846. Print.	January 2015
3.138	C. J. Cai, P. J. Guo, J. R. Glass, R. C. Miller "Wait-Learning: Leveraging Wait Time for Second Language Education" ACM conference on Human factors in computing systems - CHI . (2015): 3701-3710. Print.	January 2015
3.139	E. L. Glassman, A. Lin, C. J. Cai, R. C. Miller "Learnersourcing Personalized Hints" ACM Conference on Computer-Supported Cooperative Work & Social Computing - CSCW . (2016): 1624-1634. Print.	January 2016

4. Other Major Publications

	Publication Name	Publication Date
4.1	Miller, R. C., A Type-checking Preprocessor for Cilk, a Multithreaded C Language, M.Eng. thesis, Massachusetts Institute of Technology, 38 pages, May 1995.	May 1995
4.2	Myers, B. A., R. McDaniel, R. Miller, B. Vander Zanden, D. Giuse, D. Kosbie, and A. Mickish, "Our Experience with Prototype-Instance Object-Oriented Programming in Amulet and Garnet," Interfaces, n39 (August 1998), pp. 4—9, 1998.	August 1998
4.3	Myers, B. A., R. McDaniel, R. Miller, B. Vander Zanden, D. Giuse, D. Kosbie and A. Mickish, "The Prototype-Instance Object Systems in Amulet and Garnet," in Prototype Based Programming: Concepts, Languages and Applications, James Noble, Antero Taivalsaari and Ivan Moore, eds. Singapore: Springer-Verlag, pp. 141—176, 1999.	January 1999
4.4	Myers, B. A., R. McDaniel, and R. Miller, "The Amulet Prototype-Instance Framework," in Domain-Specific Application Frameworks, Mohamed Fayad and Ralph E. Johnson, eds. New York: John Wiley & Sons, pp. 529—546, 2000.	January 2000
4.5	Miller, R. C., Lightweight Structure in Text. PhD thesis, Computer Science Department, Carnegie Mellon University, 319 pages, May 2002. Available as CMU Computer Science technical report CMU-CS-02-134.	May 2002
4.6	Miller, R. C. and Min Wu, "Fighting Phishing at the User Interface," in Security and Usability: Designing Secure Systems that People Can Use, L. Cranor and S. Garfinkel, eds, O'Reilly, pp. 275-292, 2005. **	January 2005
4.7	Wu, Min, R. C. Miller, and S. L. Garfinkel, "Do Browser Toolbars Actually Prevent Phishing?" in Phishing and Counter-measures: Understanding the increasing problem of electronic identity theft, M. Jakobsson and S. Myers, eds, Wiley, pp. 514-521, 2005. **	January 2005
4.8	Robert C. Miller, Michael Bolin, Lydia B. Chilton, Greg Little, Matthew Webber, and Chen-Hsiang Yu. "Rewriting the Web with Chickenfoot". In No Code Required: Giving Users Tools to Transform the Web, A. Cypher, M. Dontcheva, T. Lau, and J. Nichols, eds, Elsevier, 2010.**	January 2010
4.9	Greg Little, Robert C. Miller, Victoria Chou, Michael Bernstein, Tessa Lau, and Allen Cypher. "Sloppy Programming" In No Code Required: Giving Users Tools to Transform the Web, A. Cypher, M. Dontcheva, T. Lau, and J. Nichols, eds, Elsevier, 2010.**	January 2010
4.10	Lydia B. Chilton, Robert C. Miller, Greg Little, and Chen-Hsiang Yu. "Why We Customize the Web". In No Code Required: Giving Users Tools to Transform the Web, A. Cypher, M. Dontcheva, T. Lau, and J. Nichols, eds, Elsevier, 2010.**	January 2010
4.11	Michael S. Bernstein, Mark S. Ackerman, Ed H. Chi, Robert C. Miller. "The Trouble with Social Computing Systems Research." alt.chi track, Conference on Human Factors in Computing Systems (CHI 2011), 6 pages, 2011.	January 2011

5. Internal Memoranda and Progress Reports

	Publication Name	Publication Date
5.1	Miller, R. C., A. Marshall, and M. Notowidigdo, "LAPIS: Smart Editing with Text Structure," MIT Laboratory for Computer Science Annual Research Abstracts, 2003. **	January 2003
5.2	Marshall, A. M. and R. Miller, "Cluster-Based Find & Replace," MIT CSAIL Annual Research Abstracts, 2004. **	January 2004
5.3	Wu, M., S. L. Garfinkel, and R. Miller, "Secure Web Authentication with Mobile Phones," MIT CSAIL Annual Research Abstracts, 2004. **	January 2004

	Publication Name	Publication Date
5.4	Garfinkel, S. L., E. Nordlander, D. D. Clark, & R. Miller, "Designing for Usable Security," MIT CSAIL Annual Research Abstracts, 2004. **	January 2004
5.5	Jazayeri, R. and R. Miller, "Google as a Bookmarking Tool," MIT CSAIL Annual Research Abstracts, 2004. **	January 2004
5.6	Notowidigdo, M. and R. Miller, "User-Directed Sketch Interpretation," MIT CSAIL Annual Research Abstracts, 2004. **	January 2004
5.7	Rha, P. and R. Miller, "Detecting and Parsing Embedded Lightweight Structures," MIT CSAIL Annual Research Abstracts, 2005. **	January 2005
5.8	Bolin, M. and R. Miller, "End-User Programming for the Web," MIT CSAIL Annual Research Abstracts, 2005. **	January 2005
5.9	Webber, M. and R. Miller, "Automatic Web Page Concatenation," MIT CSAIL Annual Research Abstracts, 2005. **	January 2005
5.10	Wilson, T. and R. Miller, "Separating Foreground and Background for Computer Displays," MIT CSAIL Annual Research Abstracts, 2005. **	January 2005
5.11	Chow, C. and R. Miller, "Learning Wrappers Efficiently Using Unlabeled Examples," MIT CSAIL Annual Research Abstracts, 2005. **	January 2005
5.12	Wu, M. and R. Miller, "Fighting Phishing at the User Interface," MIT CSAIL Annual Research Abstracts, 2005. **	January 2005
5.13	Dobuzhskaya, M., R. A. Brown, and R. Miller, "Timeliner Integrated Development Environment," MIT CSAIL Annual Research Abstracts, 2005. **	January 2005
5.14	Little, G. and R. Miller. "Keyword Commands," MIT CSAIL Annual Research Abstracts, 2007. **	January 2007
5.15	Huynh, D.F., R. Miller, and D.R. Karger. "Making Reusable Structured Data on The Web Cheaper," MIT CSAIL Annual Research Abstracts, 2007. **	January 2007
5.16	Goldman, M. and R. Miller. "Finding, Using, and Sharing Source Code Snippets," MIT CSAIL Annual Research Abstracts, 2007. **	January 2007
5.17	Yu, C.H. and R.C. Miller. "Web Page Readability Enhancement," MIT CSAIL Annual Research Abstracts, 2007. **	January 2007
5.18	Hupp, D. and R.C. Miller. "Automating the Web with Smart Bookmarks," MIT CSAIL Annual Research Abstracts, 2007. **	January 2007
5.19	Chou, V. and R.C. Miller "Accessing Website Functionality Through Keyword Commands," MIT CSAIL Annual Research Abstracts, 2007. **	January 2007
5.20	Su, K. and R.C. Miller. "Continuous Execution of Code in Chickenfoot," MIT CSAIL Annual Research Abstracts, 2007. **	January 2007
5.21	Miller, R.C., G. Little, D. Hupp, V. Chou, R. Hanna, and C.H. Yu. "End-user Programming for the Web," MIT CSAIL Annual Research Abstracts, 2007. **	January 2007

6. Invited Lectures

	Publication Name	Publication Date
6.1	December 2001, "Exploiting Lightweight Structure in Text: Multiple-Selection Editing and Outlier Finding", University of Maryland HCI Seminar; also February-October 2002 at Georgia Tech, RPI, Tufts University, University of Illinois Urbana-Champaign, University of Massachusetts Lowell, University of Vermont, University of Washington, IBM Research Cambridge.	December 2001
6.2	January 2003, "Exploiting Text Structure for Multiple-Selection Editing and Outlier Finding," Carnegie Mellon School of Computer Science Distinguished Lecture Series.	January 2003
6.3	April 2003, "End-user Programming for Web Users," End User Development Workshop, Conference on Human Factors in Computer Systems (CHI 2003).	April 2003
6.4	June 2004, "Secure Web Authentication with Mobile Phones," DIMACS Workshop on Usable Privacy and Security Software.	June 2005
6.5	July 2005, "When User Studies Attack: Evaluating Security by Intentionally Attacking Users," Panel session, Symposium on Usable Privacy and Security (SOUPS), Carnegie Mellon University.	July 2005
6.6	June 2006, "Web Wallet: Preventing Phishing Attacks by Revealing User Intentions", 2nd Annual Workshop on Trustworthy Interfaces for Passwords and Personal Information (TIPPI).	July 2006
6.7	July 2006, "Automation and Customization of Rendered Web Pages," New Paradigms for Using Computers (NPUC) Workshop, IBM Almaden.	July 2006
6.8	July 2006, "Developing Javascript with Chickenfoot," Google Tech Talk.	July 2006
6.9	March 2007, "Usable Security: Fighting Phishing and Email Information Disclosure at the User Interface," MITACS Digital Security Seminar Series, Carleton University.	March 2007
6.10	February-September 2008, "Automating & Customizing the Web with Keyword Programming," University of Illinois Urbana-Champaign, Oregon State University, Adobe Research, University of California Berkeley, Stanford University, IBM Research Cambridge, University of Washington, Microsoft LiveLabs, Carnegie Mellon University, Tufts University.	February 2008
6.11	March 2010, "User Interface Automation using Keywords and Pictures," Harvard University.	March 2010
6.12	July 2010-May 2012, "Crowd Computing and Human Computation Algorithms," Qualcomm; BostonCHI SIG; Adobe Technical Forum; University of California Berkeley EECS Distinguished Lecture Series; Harvard AIRG Seminar Series; invited talk for AAAI Spring Symposium on Wisdom of the Crowd; invited talk for Collective Intelligence 2012; Northwestern University Segal Design Institute seminar.	July 2010
6.13	September 2010, "Helping Professional and End-user Programmers Alike: Programming with Keywords and Pictures," IBM Research Symposium on Human-Computer Interaction and Software Engineering.	September 2010

Student Thesis Summary

Degree	Total	Completed	In Progress
PhD as Supervisor	13	12	1
PhD as Reader	21	21	0
Master's	2	2	0
MEng	36	36	0
Bachelor's	34	34	0

SUPERVISED THESES

PhD as Supervisor Theses:

- Simson Garfinkel, "Usable Security: Design Principles for Creating Systems that are Simultaneously Usable and Secure," June 2005 (Electrical Engineering and Computer Science, MIT)
- Min Wu, "Fighting Phishing at the User Interface," August 2006 (Electrical Engineering and Computer Science, MIT)
- David Huynh, "User Interfaces Supporting Casual Data-Centric Interactions on the Web," August 2007 (Electrical Engineering and Computer Science, MIT)
- Vineet Sinha, "Using Diagrammatic Explorations to Understand Code," January 2008 (Electrical Engineering and Computer Science, MIT)
- Elena Glassman, 2010 (Electrical Engineering and Computer Science, MIT)
- Greg Little, "Programming with Human Computation," May 2011 (Electrical Engineering and Computer Science, MIT)
- Michael Bernstein, "Crowd-Powered Systems," May 2012 (Electrical Engineering and Computer Science, MIT)
- Tsung-Hsiang Chang, "Using Graphical Representation of User Interfaces as Visual References," May 2012 (MIT)
- Max Goldman, "All the program's a stage, and all the programmers merely players," August 2012 (Electrical Engineering and Computer Science, MIT)
- Chen-Hsiang Yu, "Web Page Enhancement on Desktop and Mobile Browser," December 2012 (Electrical Engineering and Computer Science, MIT)
- Juho Kim, "Learnersourcing: Improving Learning with Collective Learner Activity," August 2015 (Electrical Engineering and Computer Science, MIT)
- Glassman, Elena, "Clustering and Visualizing Solution Variation in Massive Programming Classes," August 2016 (Electrical Engineering and Computer Science, MIT)
- Carrie Cai, "Wait-Learning: Intelligent Systems for Making Productive Use of Wait Time," June 2017 (Electrical Engineering and Computer Science, MIT)

PhD as Reader Theses:

- Dennis Quan, "Designing End User Information Environments Built on Semistructured Data Models," May 2003 (Electrical Engineering and Computer Science, MIT)
- Jaime Teevan, "Returning to Uncontrolled Dynamic Information," June 2006 (MIT)
- Tracy Hammond, "A Domain Description Language for Sketch Recognition," August 2006 (MIT)
- Michael Oltmans, "Envisioning Sketch Recognition: A Local Feature Based Approach to Recognizing Informal Sketches," May 2007 (Electrical Engineering and Computer Science, MIT)
- Andrew Correa, 2009 (Electrical Engineering and Computer Science, MIT)
- Robert Seator, "Building Dependability Arguments for Software Intensive Systems," January 2009 (Electrical Engineering and Computer Science, MIT)
- Aaron Adler, "Multimodal Interactive Digital Whiteboard," May 2009 (MIT)
- Tom Yeh, "Photo-Oriented Questions—a Multi-Modal Approach to Information Retrieval," May 2009 (MIT)
- Edward Benson, 2010 (Electrical Engineering and Computer Science, MIT)
- Eunsuk Kang, 2010 (Electrical Engineering and Computer Science, MIT)
- Oliver Koch, "Vision-based Human-Centered Navigation Guidance," February 2010 (MIT)
- Eirik Bakke, 2011 (Electrical Engineering and Computer Science, MIT)
- Max Van Kleek, "Providing Proactive Support for Task and Interrupt Management," February 2011 (MIT)
- Tom Ouyang, "Understanding Freehand Diagrams: Combining Appearance and Context for Multi-domain Sketch Recognition," December 2011 (MIT)
- Ian McGraw, "Crowd-supervised Training of Spoken Language Systems," May 2012 (MIT)

- Michael Nebeling, "Lightweight Informed Adaptation," July 2012 (ETH Zurich)
- Edith Law, "Human Computation," August 2012 (Computer Science, Carnegie Mellon University)
- Andrés Monroy-Hernández, "Catalyzing Remix Culture," August 2012 (Media Arts & Sciences, MIT)
- Adam Marcus, "Optimization Techniques for Human Computation-enabled Data Processing Systems," August 2012 (MIT)
- Haoqi Zhang, "Human Computation for Task Decomposition and Planning," September 2012 (Computer Science, Harvard University)
- Hubert Pham, "User Interface Handles for Web Objects," December 2013 (Electrical Engineering and Computer Science, MIT)

Master's Theses:

- Little, Greg, "Keyword Programming," May 2007 (EECS, MIT)
- Lieber, Tom, "Understanding Asynchronous Code," May 2013 (EECS, MIT)

MEng Theses:

- Marshall, Alisa, "'Cluster-Based Find and Replace'," May 2003 (Electrical Engineering and Computer Science, MIT)
- Venugopalan, Vishwanath, "'Human-Intelligible Positioning'," December 2003 (Electrical Engineering and Computer Science, MIT)
- Ryan Jazayeri, "Google as a Bookmarking Tool," May 2004 (Electrical Engineering and Computer Science, MIT)
- Brian Stube, "Automatic Generation of XSLT by Simultaneous Editing," May 2004 (Electrical Engineering and Computer Science, MIT)
- Matthew Notowidigdo, "User-Directed Sketch Interpretation," May 2004 (Electrical Engineering and Computer Science, MIT)
- Maya Dobouzhskaya, "A Timeliner Integrated Development Environment," May 2005 (Electrical Engineering and Computer Science, MIT)
- Philip Rha, "Detecting and Parsing Embedded Lightweight Structures," May 2005 (Electrical Engineering and Computer Science, MIT)
- Michael Bolin, "End-user Web Programming," May 2005 (Electrical Engineering and Computer Science, MIT)
- Nidhi Sharma, "FireViz: A Personal Network Firewall Visualizing Tool," May 2005 (Electrical Engineering and Computer Science, MIT)
- Ariel Rideout, "An Email Spam Filtering Proxy Using Secure Authentication and Micro-bonds," May 2005 (Electrical Engineering and Computer Science, MIT)
- Eric Lieberman, "Facemail: Preventing Common Errors When Composing Email," May 2006 (Electrical Engineering and Computer Science, MIT)
- Tom Wilson, "Gradual Awareness Notification for the Desktop Environment," May 2006 (Electrical Engineering and Computer Science, MIT)
- Roger Hanna, "EasyLink: Improving Target Acquisition in Web Applications with Link Prediction," February 2007 (Electrical Engineering and Computer Science, MIT)
- Kevin Su, "Continuous Execution: Improving User Feedback in the Development Cycle," May 2007 (Electrical Engineering and Computer Science, MIT)
- Darris Hupp, "Smart Bookmarks: Automatic Retroactive Macro Recording on the Web," May 2007 (Electrical Engineering and Computer Science, MIT)
- Victoria Chou, "Inky: Internet Keywords with User Feedback," January 2008 (Electrical Engineering and Computer Science, MIT)
- Michael Fitzgerald, "CopyStyler: Web Design by Example," May 2008 (Electrical Engineering and Computer Science, MIT)
- Matthew Tanwanteng, "Applying Quantitative Models to Evaluate Complexity in Video Game Systems," September 2008 (Electrical Engineering and Computer Science, MIT)
- Lydia Chilton, "Seaweed: An End-user Programming System for Web-Scale Economic Experiments," May 2009 (Electrical Engineering and Computer Science, MIT)
- Clayton Sims, "Scientia: An End User Development Environment for Decision Support Systems," August 2009 (Electrical Engineering and Computer Science, MIT)
- Matthew Webber, "A Stateful Web Augmentation Toolkit," February 2010 (Electrical Engineering and Computer Science, MIT)
- Rajeev Nayak, "Sinch: Searching Intelligently on a Mobile Device," May 2010 (Electrical Engineering and Computer Science, MIT)

- Igor Kopylov, "CourseDiff: A System For Identifying And Reporting Changes To Course Websites," May 2010 (Electrical Engineering and Computer Science, MIT)
- Richard Chan, "Mobi: Automatic Customization of the Mobile Web," May 2010 (Electrical Engineering and Computer Science, MIT)
- Amy Wooten, "Improving the Distributed Evolution of Software through Heuristic Evaluation," February 2011 (Electrical Engineering and Computer Science, MIT)
- Mason Tang, "Caesar: A Social Code Review Tool for Programming Education," August 2011 (MIT)
- Angela Chang, "A Mobile Instructor Interface for Collaborative Software Development Education," May 2012 (Electrical Engineering and Computer Science, MIT)
- Elena Tatarchenko, "Analysis of Performing Code Review in the Classroom," May 2012 (Electrical Engineering and Computer Science, MIT)
- Andrés López-Pineda, "FlightCrew Browser: A Safe Browser for Drivers," May 2013 (Electrical Engineering and Computer Science, MIT)
- Geza Kovacs, "Multimedia for Language Learning," May 2013 (EECS, MIT)
- Denzil Sikka, "NORA: No One Revises Alone: Classroom Web Application Facilitating Peer Feedback & Discussion," December 2013 (Electrical Engineering and Computer Science, MIT)
- Pratushevich, Michele, "EdVidParse: Detecting People and Content in Educational Videos," June 2015 (Electrical Engineering and Computer Science, Massachusetts Institute of Technology (MIT))
- Krosnick, Rebecca, "VideoDoc: Combining Videos and Lecture Notes for a Better Learning Experience," June 2015 (Electrical Engineering and Computer Science, Massachusetts Institute of Technology (MIT))
- Klein, Abigail, "Search Tools for Scaling Expert Code Review to the Global Classroom," August 2015 (Electrical Engineering and Computer Science, Massachusetts Institute of Technology (MIT))
- Terman, Stacey, "GroverCode: Code Canonicalization and Clustering Applied to Grading," June 2016 (Electrical Engineering and Computer Science, Massachusetts Institute of Technology (MIT))
- Chau, Genghis, "Cilkpride: Always-on Visualizations for Parallel Programming," February 2017 (Electrical Engineering and Computer Science, Massachusetts Institute of Technology (MIT))

Bachelor's Theses:

- Webber, Matthew, "'Detecting and Concatenating Sequences of Web Pages'," May 2005 (MIT)
- Tsai, David, "'Fast Identifier Search in Eclipse'," May 2005 (MIT)
- Waldman, Billy, "'An Intramural Sports Management System'," May 2005 (MIT)
- Marra, Anibal, "'A Strong Authentication Mechanism for Consumer-Facing Online Transactions'," May 2005 (MIT)
- Phan, Nancy, "'Improving the iCampus Front Desk Interface from a User Perspective" ," May 2005 (MIT)
- Richard Pell, "RSSNews: A Personalized Newspaper Interface for Viewing RSS Feeds," May 2006 (MIT)
- Bob Aspell, "ISMS Scheduling System," May 2006 (MIT)
- Will Reichert, "Developing a Google Maps Mashup Using AJAX and User Centric Design," May 2006 (MIT)
- Jon Stritar, "Scripting Firefox with Keyword Commands," May 2007 (MIT)
- Anthony Lim, "The MIT Subject Listings and Schedule Page for Course 6," May 2007 (MIT)
- Julian Cabellero, "Usability of Web-Based Database Administration Tool for the Undergraduate Practice Opportunities Program," May 2007 (MIT)
- Jonathan Grimm, "Learning Favorite Web Sites," May 2007 (MIT)
- Lydia Chilton, "Graphically Based Statistical Editing Software for Economists," May 2007 (MIT)
- Makinde Adeagbo, "Leveraging Click Paths Through the Web to Aid Page Revisitation," May 2007 (MIT)
- Michelle Teh, "Media Mash," May 2008 (MIT)
- Erik Stafel, "Studying the User Interface Design of a Computer Game," May 2008 (MIT)
- Arjun Dayal, "Dynamic DJ," May 2008 (MIT)
- Evan Gerard, "A Web Platform Studying the Bayesian Truth Serum," May 2008 (MIT)
- Isabel Mattos, "Imagine possibilities," May 2010 (MIT)
- Yafim Landa, "Videation Assistant for Blind and Cognitively-Impaired Users," May 2011 (MIT)
- Peter Iannucci, "Visual Assistive Device Design and Prototyping in Preparation for User Studies," May 2011 (MIT)
- Kelly Casteel, "Expanding the Quick-Question Interface in TurkKit," May 2011 (MIT)
- Alexandra Jiang, "TurkRate: Reputation Manager for Mechanical Turk," May 2011 (MIT)
- Daniel Zheng, "Spammers on Mechanical Turk: Nuisance or Deal Breakers?," May 2011 (MIT)
- David Crowell, "Flesh-Kincaid: A Human-Powered Readability Tool," May 2011 (MIT)
- Elena Tatarchenko, "An Alternative to the TurkKit Crash and Rerun Programming Model," May 2011 (MIT)
- Tony Tran, "Sinch: A Delegated Search Service," May 2011 (MIT)

- Shawn Conrad, "Crowd Labour Aiding Search Pane," May 2011 (MIT)
- Patrick Yumane, "Adding a File Tree to Collabode," May 2011 (MIT)
- Akansha Kumar, "Sinch Adapted for the Car," May 2011 (MIT)
- Angela Chang, "Web Application Development in Collabode," May 2011 (MIT)
- Eleanor Mallory, "Facebook Related Links Application," December 2011 (MIT)
- Andrés López-Pineda, "CarSinch," May 2012 (MIT)
- Adam Leonard, "Sikuli Blocks: Making Computer Automation Tools More Learnable," May 2012 (MIT)

Postdoctoral Associates and Fellows Supervised by Robert C Miller

PREVIOUS POSTDOCTORAL ASSOCIATES

Name	Current Title	Current Employer
Philip Guo	Assistant Professor	University of Rochester
Zhang, Haoqi	Assistant Professor	Northwestern University
Joseph Lawrance	Associate Professor	Wentworth Institute of Technology

Professional Statement of Robert C Miller

My work is centered on user interface design and human-computer interaction (HCI). As software and information systems become ever more complex and more tightly woven into our lives, the need for effective user interfaces to technology has never been greater. The goal of my work is not to "dumb down" the interface, or cripple its power, or remove control from the hands of users, but rather to find innovative ways to align user interfaces with the needs, tasks, and capabilities of the people they serve.

My research work has been focused on four areas. In (1) **user interface automation and customization**, my group has studied ways for end-users to adapt web sites and desktop applications to their own needs, while reducing the burdens of complexity and learning that often interfere. Among our innovations are *keyword programming*, which relies on keywords rather than formal syntax to describe computation, and *programming with screenshots*, which uses screenshots of UI elements to scripting a graphical user interface. This work has won two best-paper awards, produced two open-source programming systems downloaded by tens of thousands of users, and directly inspired work by researchers at other institutions.

In (2) **crowd computing**, we are studying how to coordinate small contributions from an online crowd of people to bring human intelligence into interactive systems. Our contributions have included *human computation algorithms*, which combine humans and software to solve problems that neither can solve alone. We developed an open-source programming toolkit (Turkit) that enables easier experimentation with such algorithms, allowing our group and others to explore novel algorithms for writing, brainstorming, proofreading, image selection, audio transcription, and sorting. My group has also built a range of *crowd-powered systems*, including a word processor plugin (Soylent), a digital camera (Adrenaline), a visual question answerer for the blind (VizWiz), and a highly-collaborative programming environment (Collabode). Our systems push the limits of what can be done with crowdsourcing, with applications that are more complex, more open-ended, and more interactive than before, approaching the goal of *realtime crowdsourcing*. Our work has won two best paper awards, received many citations, and had substantial impact on other researchers in crowdsourcing.

Earlier research work included (3) **automatic text editing**, where we developed a range of novel techniques for handling repetitive editing tasks without the complexity of programming. Our work in this area won two best-paper awards and a prize in a best-tool competition. Finally, we have worked on (4) **usable security**, including user studies of email security, new solutions to problems like the unintentional information disclosure caused by misdirected mail, and studies of phishing attacks with new defenses against the problem.

My educational goals have primarily concerned bringing human-computer interaction into the MIT computer science curriculum. I introduced a new HCI unit into 6.170, the required software engineering course, and taught the unit for 11 semesters. I created and taught 6.813/6.831, an undergraduate/introductory-graduate-level HCI course, which has steadily grown in enrollment and received high course evaluations over the nine years it has been taught. I also helped create 6.005, a new sophomore-level software engineering course; 6.470, a web programming competition; and 6.S196, a course on assistive technology.

Teaching Evaluations

Term	Course Number	Course Title	Teaching Role	Course Type	Num Students Registered	Num Survey Responses	Instructor Evaluation	Course Evaluation
FT2002	6.17	Laboratory in Software Engineering	Lecturer	Lecture	125	52	5.2	6.0
ST2003	6.001	Structure and Interpretation of Computer Programs	Recitation Instructor	Lecture		13	6.1	5.4
FT2003	6.893	User Interface Design and Implementation	Lecturer	Lecture	36	23	6.4	6.1
ST2004	6.17	Laboratory in Software Engineering	Lecturer	Lecture	140	66	5.9	5.7
FT2004	6.831	User Interface Design and Implementation	Lecturer	Lecture	48	17	6.1	5.6
FT2005	6.831	User Interface Design and Implementation	Lecturer	Lecture	50	37	6.3	6.0
FT2006	6.831	User Interface Design and Implementation	Lecturer	Lecture	66	27	6.2	6.0
ST2007	6.001	Structure and Interpretation of Computer Programs	Lecturer	Lecture	241	109	5.0	5.4
FT2007	6.005	Elements of Software Construction	Lecturer	Lecture	24	14	5.8	6.1
ST2008	6.831	User Interface Design and Implementation	Lecturer	Lecture	70	45	6.0	5.6
FT2008	6.005	Elements of Software Construction	Lecturer	Lecture	71	38	5.8	5.6
ST2009	6.813/6.831	User Interface Design and Implementation	Lecturer	Lecture	115	48	5.8	5.5
FT2009	6.005	Elements of Software Construction	Lecturer	Lecture	85	32	5.4	5.1
ST2010	6.813/6.831	User Interface Design and Implementation	Lecturer	Lecture	108	44	5.7	5.6
ST2011	6.831/	User Interface Design and Implementation	Lecturer	Lecture	125	37	6.1	5.8
FT2011	6.005	Elements of Software Construction	Lecturer	Lecture	157	85	5.3	4.4
FT2011	6.005	Software Construction	Lecturer	Lecture	157	85	5.3	4.4
FT2011	6.S196	Special Lab Subject in EE & CS	Lecturer	Lecture	14	14	6.5	6.6
ST2012	6.813/6.831	User Interface Design and Implementation	Lecturer	Lecture	172	73	6.3	6.0
ST2012	6.813	User Interface Design	Lecturer	Lecture	172	73	6.3	6.0
FT2012	6.S196	Special Lab Subject in EE & CS	Lecturer	Lecture	12	9	6.8	6.4
FT2012	6.005	Software Construction	Lecturer	Lecture	148	70	5.7	4.7
ST2013	6.813	User Interface Design	Lecturer	Lecture	172	67	6.2	5.8
FT2013	6.005	Software Construction	Lecturer	Lecture	241	126	6.4	6.0
ST2014	6.813	User Interface Design	Lecturer	Lecture	237	82	4.9	5.2
ST2014	6.005	Software Construction	Lecturer	Lecture	181	76	5.8	4.8
FT2014	6.005	Software Construction	Lecturer	Lecture	217	120	6.0	5.4
FT2014	6.811	Princ and Pract of Assist Tech	Lecturer	Lecture	36	27	3.5	6.2
ST2015	6.005	Software Construction	Lecturer	Lecture	237	161	6.2	5.6
ST2015	6.813	User Interface Design	Lecturer	Lecture	203	83	6.1	5.7
FT2015	6.005	Software Construction	Lecturer	Lecture	202	127	6.1	5.5

Term	Course Number	Course Title	Teaching Role	Course Type	Num Students Registered	Num Survey Responses	Instructor Evaluation	Course Evaluation
FT2016	6.811	Princ and Pract of Assist Tech	Lecturer	Lecture	23	13	6.0	6.2

Photograph of Robert C Miller

