

Joseph Lawrance

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TEACHING	Taught C, Compilers, Computer Architecture, Data Structures, Human-computer interaction, Java, Object-oriented programming, and Software Engineering. Streamlined Wentworth's Computer Science curriculum. Mentored undergraduate researchers (Kyle Rector, Andrew Stucky, Nick Schultz, Mizuki Kagaya). Tutored students in Calculus, Computer Science and Statistics.	
RESEARCH	Co-authored over a dozen peer-reviewed publications (G-index: 8, H-index 5). Co-chaired PPIG 2010; served on the Program Committee for DEFECTS 2008. Empirically studied professional programmers in the lab (twice) and in the field (for seven months). Gave invited talks at Harvard University, Brown University, Massachusetts Institute of Technology, Universidad Carlos III de Madrid, University of Nebraska-Lincoln, and Westfield State College. Reviewed paper submissions for ACM CHI 2008-2012, IEEE ISI 2011-2012. Started http://apiusability.org .	
PROGRAMMING	Java: Refactored Logisim, wrote a parser combinator library, a programmer navigation gathering Eclipse plugin, a spreadsheet testing/fault-localization tool, and a Japanese-English search engine. Python: Wrote a Sudoku solver, an SDL Sokobon puzzle game, and a Brainf— compiler. C/C++: Wrote an SVG viewer, and a turn-based trading game (Hiloto's Flowers). XSLT: Wrote a web to MediaWiki script, an XML diff tool, and a Cocoon-based web-site rewriter. Perl: Wrote a catering reservation web application. PHP: Improved cWeed to deploy economic games to Mechanical Turk. Ruby: Replaced Logisim's build script using Buildr. Haskell: Added Perl regex syntax support to Java's grammar using Parsec.	
HONORS AND AWARDS	AFOSR grant and NSF supplement from 2009-2012. IBM Invention achievement award, 2009. IBM Ph.D. Scholarship, 2008-2009. Best paper award honorable mention, ACM CHI 2008.	
EMPLOYMENT	Assistant Professor , Wentworth Institute of Technology, Boston, MA. September 2010-Present Postdoctoral Associate , Massachusetts Institute of Technology. September 2009-August 2010 Research Assistant , Oregon State University. June-September 2004, June 2005-June 2009 Intern , IBM Research, Hawthorne, NY. June 2006-November 2008 Instructor , Oregon State University. June-August 2008 Teaching Assistant , Oregon State University. September-December 2004, March-June 2005 Intern , Microsoft. January-March 2005 Intern , American Airlines Federal Credit Union. June-September 2002, June-September 2003 Web Developer , Lawrence University, Appleton, WI. June-September 2001 Tutor , Lawrence University, Appleton, WI. April 2000-June 2003	
EDUCATION	Ph.D., Computer Science , Oregon State University. 2009 Dissertation: Information foraging in debugging. M.S., Computer Science , Oregon State University. 2005 Thesis: How well do professionals test with code coverage visualizations? An empirical study. B.A., Math & Computer Science , Lawrence University, Appleton, WI. 2003 Minor: Psychology	
REFEREES	Margaret Burnett , Professor, School of EECS, Oregon State University. Rachel Bellamy , Manager, Software Productivity Group, IBM Research. Rob Miller , Associate Professor, User Interface Design Group, MIT CSAIL.	(541) 737-2539 (914) 784-7587 (617) 324-6028

1. Fleming, S., Scaffidi, C., Piorkowski, D., Burnett, M., Bellamy, R., Lawrance, J. and Kwan, I. An Information Foraging Theory Perspective on Tools for Debugging, Refactoring, and Reuse Tasks, *ACM Transactions on Software Engineering and Methodology* (to appear 2013).
2. Jung, S. and Lawrance, J. Web Information Retrieval and Filtering course to Undergraduates using Open Source Programming. *ACM Inroads Magazine*. Volume 2 Issue 3, September. New York, NY: ACM Press. 2011.
3. Lawrance, J., Bogart, C., Burnett, M., Bellamy, R., Rector, K. and Fleming, S. How Programmers Debug, Revisited: An Information Foraging Theory Perspective, *IEEE Transactions on Software Engineering*, Volume 39 Number 2, February 2013.
4. Ko, A. J., Abraham, R., Beckwith, L., Blackwell, A., Burnett, M., Erwig, M., Lawrance, J., Scaffidi, C., Lieberman, H., Myers, B., Rosson, M. B., Rothermel, G., Shaw, M. and Wiedenbeck, S. The State of the Art in End-User Software Engineering, *ACM Computing Surveys* 43(3), Article 21, April 2011.
5. Dagit, J., Lawrance, J., Neumann, C., Burnett, M., Metoyer, R. and Adams, S. Using Cognitive Dimensions: Advice from the Trenches, *Journal of Visual Languages and Computing*, 17(4), 302-327, August 2006.
6. Robertson, T. J., Lawrance, J. and Burnett, M. Impact of High-Intensity Negotiated-Style Interruptions on End-User Debugging, *Journal of Visual Languages and Computing*, 17(2), 187-202, April 2006.

7. Lawrance, J., Jung, S. and Wiseman, C. Git on the Cloud in the Classroom, *ACM SIGCSE* 2013. Denver, Colorado, March 2013, to appear. (37.8% acceptance rate)
8. Lawrance, J., Burnett, M., Bellamy, R., Bogart, C. and Swart, C. Reactive Information Foraging for Evolving Goals, *ACM CHI* 2010. Atlanta, Georgia, April 2010, 25-34. (22% acceptance rate)
9. Lawrance, J., Bellamy, R., Burnett, M. and Rector, K. Can Information Foraging Pick the Fix? A Field Study, *IEEE VL/HCC*, September 2008, 57-64. (28.6% acceptance rate)
10. Lawrance, J., Bellamy, R., Burnett, M. and Rector, K. Using Information Scent to Model the Dynamic Foraging Behavior of Programmers in Maintenance Tasks, *ACM CHI* 2008, Florence, Italy, April 2008, 1323-1332. (22% acceptance rate) (**Best Paper Honorable Mention**, awarded to 30 of the 714 submitted papers)
11. Lawrance, J., Bellamy, R., and Burnett, M. Scents in Programs: Does Information Foraging Theory Apply to Program Debugging? *IEEE VL/HCC* 2007, Coeur d'Alene, Idaho, September 2007, 15-22. (32% acceptance rate)
12. Lawrance, J., Abraham, R., Burnett, M. and Erwig, M. Sharing Reasoning to Improve Fault Localization in Spreadsheets, *IEEE VL/HCC* 2006, Brighton, United Kingdom, September 2006, 35-42. (25% acceptance rate)
13. Beckwith, L., Kissinger, C., Burnett, M., Wiedenbeck, S., Lawrance, J., Blackwell, A. and Cook, C. Tinkering and Gender in End-User Programmers' Debugging, *ACM CHI* 2006, Montréal, Quebec, Canada, April 2006, 231-240. (23% acceptance rate)
14. Lawrance, J., Clarke, S., Burnett, M. and Rothermel, G. How well do professional developers test with code coverage visualizations? An empirical study, *IEEE VL/HCC* 2005, Dallas, Texas, September 2005, 53-60. (31% acceptance rate)

15. Torosyan, R. and Lawrance, J. Making Feedback and Grading More Natural Using Google Docs and Forms, *New England Faculty Development Consortium*, November 2012.
16. Wiseman, C., Lawrance, J. and Suresh, D. Rapidly Gauging Student Comprehension with Online Tools, *New England Faculty Development Consortium*, June 2012.
17. Burnett, M., Bogart, C., Cao, J., Grigoreanu, V., Kulesza, T. and Lawrance, J., End-User Software Engineering and Distributed Cognition, *SEEUP Workshop at ICSE*, May 2009, 9-19.
18. Lawrance, J., Bogart, C., Burnett, M., Bellamy, R., and Rector, K. How People Debug, Revisited: An Information Foraging Theory Perspective, *IBM TR RC24783*, April 2009.
19. Lawrance, J. Using Programming by Demonstration to Reorganize User Interfaces, *Graduate Student Consortium at IEEE VL/HCC*, Brighton, United Kingdom, September 2006, 238-239.
20. Lawrance, J., Burnett, M., Abraham, R. and Erwig, M. Toward Sharing Reasoning to Improve Fault Localization in Spreadsheets, *WEUSE II Workshop at ACM CHI* 2006.
21. Burnett M., Dagit, J., Lawrance, J., Beckwith, L. and Kissinger, C. Experiences with Cognitive Dimensions, *Cognitive Dimensions 10th Anniversary Workshop at IEEE VL/HCC* 2005.
22. Lawrance, J., Clarke, S., Burnett, M. and Rothermel, G. How Well Do Professional Developers Test with Code Coverage Visualizations? An Empirical Study, *Oregon State University TR* 2005-86, March 2005.