

JOEL ROSS, PH.D.

Information School, University of Washington. Seattle, WA 98195
joelross@uw.edu ▪ <http://faculty.washington.edu/joelross/>

ACADEMIC APPOINTMENTS

INFORMATION SCHOOL, UNIVERSITY OF WASHINGTON

- Senior Lecturer, 2015 - present

UNIVERSITY OF PUGET SOUND

- Visiting Assistant Professor of Computer Science, 2012 - 2015

UNIVERSITY OF CALIFORNIA, IRVINE

- Teaching Associate [*Instructor*], 2011

EDUCATION

Ph.D. Information and Computer Science; 2013

University of California, Irvine

- Dissertation: *Assessing Understanding of Complex Causal Networks Using an Interactive Computer Game*
- Advisor: Bill Tomlinson

M.S. Information and Computer Science, Informatics (Ubiquitous Computing); 2009

University of California, Irvine

B. A. *magna cum laude*, Double Major: Mathematics (Computer Science), English; 2006

Colorado College, Colorado Springs, CO

- Distinction in Mathematics (emphasis on Computer Science)
- Distinction in English
- English Thesis: *A Conflict of Views: Tensions in the Multi-Plot Narrative*

TEACHING

COURSES TAUGHT

- Client-Side Web Development, UW iSchool
- Mobile Development: Android, UW iSchool
- Software Architecture, UW iSchool
- Technical Foundations of Informatics [*Intro to programming in R*], UW iSchool
- Introduction to Programming for Information and Data Science [*graduate*], UW iSchool
- Introduction to Computer Science, University of Puget Sound
- Computer Science II, University of Puget Sound
- Computer Graphics, University of Puget Sound
- Software Engineering, University of Puget Sound
- Mathematics of Computer Science, University of Puget Sound
- Capstone in Computer Science, University of Puget Sound
- Critical Writing in Information and Computer Sciences, UCI

GUEST LECTURER

- "Serious Games and Gamification". Computer Games and Society, UCI, Fa11
- "Pervasive and Mobile Game Technologies". Game Technologies and Interactive Media, UCI, Sp11
- "Persuading Using Pervasive Games". Computer Games and Society, UCI, Fa10

ADVISING AND MENTORING

Graduate research advising

- Malini Srivastava, "Pervasive Energy Game" (doctoral committee member), Carnegie Mellon University School of Architecture, 2015 - present
- Sara Bacon, "Vegetables in the Ice Cream: An Educational Escape Room for the Museum of Flight " (Master's Thesis committee member), UW Museology, 2017 - 2018
- Benjamin Dudzik, "Visitor Perceptions of Augmented Reality in Science Museums" (Master's Thesis committee member), UW Museology, 2017 - 2018
- Gargi Saha, Jyothirmayee Mocherla, Sanath Sreenivasamurthy, Amol Surve, "GradScout" (capstone project advisor), UW iSchool, 2016 - 2017
- Sean Packham, "Crowdsourcing a Text Corpus for a Low Resource Language" (Master's thesis external examiner), University of Cape Town Department of Computer Science, 2016

Undergraduate research advising

- Beth Anderson, "Terror Management Theory and Violent Video Games" (honors thesis reader), University of Puget Sound Psychology, 2014-2015

Independent study supervision, UW Information School

- Anton Paras, "Advanced JavaScript", Au18
- Yash Mehta, "Sentiment Analysis and Collaborative Filtering" (graduate-level), Sp18
- Justin Petelka, "Software Architecture and Development" (graduate-level), Wi18
- Avidant Bhagat & Jenny Liang, "Software Engineering: RaffleAway" (UW Honors Program), Au17
- Abhinav Garg, "Recommender Systems" (graduate-level), Sp17
- Gargi Saha, "NoSQL Databases" (graduate-level), Sp17
- Amol Surve, "Django for Web Application Development" (graduate-level), Sp17
- Thomas Tseng, "Software Architecture", Sp17
- Hemant Joshi, "Android Development" (graduate-level), Au16
- Amol Surve, "Android Development" (graduate-level), Au16
- Harpreet Singh, "Data Science", Sp16
- Rohan Thakkar, "Android Game Development" (graduate-level), Sp16
- Kyungmin Lee, "Android Memory Management", Wi16

Academic internship supervision, UW Information School

- Chen-Wei Chiu (Wi16, Sp16), Kyungmin Lee (Wi16, Su16, Sp17), Tianai Zhao (Su16), Michael Andrea (Su16), Jose Naranjo (Su16), Tao Long (Wi17), Omar Khan (Wi17), Kathryn Brusewitz (Sp17), Hannah Mansoori (Su17), John Park (Su17), Jingwen Guo (Au17), Saurav Kharb (Au18), Zhiqi Lin (Au18), Leon Long (Au18), Cherie Ruan (Au18), Rico Wang (Au18), Patrick Yi (Au18)

Academic advisor for 24 students (including 19 first-year students), University of Puget Sound, 2013 - 2015

Graduate mentor for 15 undergraduate researchers, UCI, 2007 - 2011

- Oliver Holmes, Calit2 SURF-IT Fellow, "Understanding Player Dynamics in Thwarting Games", 2011
- Nitin Shantharam, Honors Thesis, "Collaborative Filtering and Carbon Footprint Calculation", 2010
- Robert Simpson, Calit2 SURF-IT Fellow, "Human Mediated Networking", 2008.
- Michael Riccobono, NSF REU Recipient, "Green IT", 2008

PEDAGOGICAL DEVELOPMENT

- Technology Teaching Fellows Institute, UW Center for Teaching and Learning, 2017
- Curriculum Transformation Project, UW Information School, 2016 - 2017
- Web Accessibility in Curriculum, UW Accessibility Technology Services, 2016
- Faculty Fellows Program, UW Center for Teaching and Learning, 2015
- Pedagogical Fellow, UCI Teaching Learning and Technology Center, 2011 - 2012
- "Teach Smarter with EEE". UCI Teaching Learning and Technology Center Workshop Series, 2012
With Dan Flynn. Designed and conducted workshop on learning management system.
- TA Professional Development Program, UCI, 2011
With Dan Flynn. Designed and conducted two-day training workshop for 43 new TAs.

PUBLICATIONS

* indicates undergraduate co-author

BOOKS

Freeman, M., and **Ross, J.** (2018). *Programming Skills for Data Science: Start Writing Code to Wrangle, Analyze, and Visualize Data with R*. Pearson.

OPEN SOURCE TEXT BOOKS

Freeman, M. and **Ross, J.** "Technical Foundations of Informatics". Online.
<https://info201.github.io/>

Ross, J., and Freeman, M. "Client-Side Web Development". Online.
<https://info340.github.io/>

Ross, J. "Android Development: Lecture Notes". Online. <https://info448.github.io/>

Ross, J. "Introduction to Programming". Online. <https://info511.github.io/>

JOURNAL PAPERS

Ross, J., *Simpson, R., and Tomlinson, B. (2011). "Media Richness, Interactivity, and Retargeting to Mobile Devices: A Survey". In: *International Journal of Arts and Technology*, 4(4), 442-459. Inderscience.

Ross, J. and Tomlinson, B. (2011). "Negabehaviors and Environmental Sustainability". In: *Journal of Sustainability Education*, 2(1). Online.

Tomlinson, B., Yau, M. L., Baumer, E., **Ross, J.**, *Correa, A., & *Ji, G. (2009). "Richly Connected Systems and Multi-Device Worlds". In: *Presence: Teleoperators & Virtual Environments*, 18(1), 54-71. MIT Press.

PEER-REVIEWED FULL CONFERENCE PROCEEDINGS

Ross, J., *Shantharam, N., and Tomlinson, B. (2010). "Collaborative Filtering and Carbon Footprint Calculation". In: *Proceedings of the 2010 International Symposium on Sustainable Systems and Technology (ISSST)*. Washington D.C.: IEEE.

PEER-REVIEWED SHORT CONFERENCE PROCEEDINGS AND WORKSHOP PAPERS

Silberman, M.S., Tomlinson, B., LaPlante, R., **Ross, J.**, Ko, Irani, L., Zaldivar, A. (2018). "Responsible research with crowds: pay crowdworkers at least minimum wage". In: *Communications of the ACM*, 61(3), 39-41. New York: ACM.

Ross, J., Ko, A., Stearns, D.L. (2017). "Accessibility as a First-Class Concern in Teaching GUIs and Software Engineering". In: *lightning talk session of 2017 ACM SIGCSE Technical Symposium on Computer Science Education*. (701-701). Seattle, Washington, USA: ACM.

Tomlinson, B., **Ross, J.**, André, P., Baumer, E., Patterson D., Corneli, J., Mahaux, M., Nobarany, S., Lazzari, M., Penzenstadler, P., Torrance, A., Callele, D., Olson, G., Silberman, M.S., Ständer, M., Palamedi, F., Salah, A., Morrill, E., Franch, X., Mueller, F., Kaye, J., Black, R., Cohn M., Shih, P., Brewer, J., Goyal, N., Näkki, P., Huang, J., Baghaei, N., and Saper, C. (2012). "Massively Distributed Authorship of Academic Papers". In: *alt.chi session of CHI 2012 extended abstracts on human factors in computing systems*. (11-20). Austin, Texas, USA: ACM. [47% acceptance rate]

Ross, J. (2011). "Pervasive Negabehavior Games for Environmental Sustainability". In: *Doctoral Consortium session of CHI 2011 extended abstracts on human factors in computing systems*. (1085-1088). Vancouver, Canada: ACM. [32% acceptance rate]

Ross, J. and Tomlinson, B. (2010). "How Games Can Redirect Humanity's Cognitive Surplus for Social Good". In: *ACM Computers in Entertainment (CIE)*, 8(4). ACM.

Silberman, M.S., Irani, L., **Ross, J.** (2010). "Ethics and Tactics of Professional Crowdwork". In: *XRDS: Crossroads, The ACM Magazine for Students*, 17(2). ACM.

Silberman, M.S., **Ross, J.**, Irani, L., and Tomlinson, B. (2010). "Sellers' problems in human computation markets". In: *Proceedings of the ACM SIGKDD Workshop on Human Computation (HCOMP '10)*. (18-21). Washington D.C.: ACM. [28% acceptance rate]

Ross, J., Irani, L., Silberman, M.S., *Zaldivar, A., and Tomlinson, B. (2010). "Who are the Crowdworkers?: Shifting Demographics in Mechanical Turk". In: *alt.chi session of CHI 2010 extended abstracts on human factors in computing systems*. (2863-2872). Atlanta, Georgia, USA: ACM. [42% acceptance rate]

- This paper has been cited more than 1000 times

CHAPTERS IN EDITED VOLUMES

Ross, J. (2013). "Pervasive Human Computing." In: *Handbook of Human Computation*, Michelucci, P. (ed.). 333–345. Springer.

TECHNICAL REPORTS

Ross, J., *Holmes, O., and Tomlinson, B. (2012). "Playing with Genre: User-Generated Game Design in LittleBigPlanet 2". LUCI Report 2012-003.

Ross, J., Amsel, N., *Beckman, R., and Tomlinson, B. (2010). "EcoPath: Adding Spatial, Social, and Gaming Contexts to Personal Tracking Systems". Social Code Report 2010-01.

Ross, J., *Zaldivar, A., Irani, L., and Tomlinson, B. (2009). "Who are the Turkers? Worker Demographics in Amazon Mechanical Turk". Social Code Report 2009-01.

HONORS AND AWARDS

HONORS

- UW Distinguished Teaching Award (nomination), 2019
- UW iSchool Teaching Excellent and Creative Honors (TEACH award), 2018
- UCI Most Promising Future Faculty Dissertation Fellowship, 2012
- NSF Graduate Research Fellowship Honorable Mention, 2009
- UCI Public Impact Fellowship Honorable Mention, 2009
- Phi Beta Kappa Honor Society, 2006
- Frank Krutzke Senior Project Award in English, Colorado College, 2006

AWARDS

- Paul Butterworth Student Award (\$1200, "The Better Carbon Calculator"), 2010. With Nitin Shantharam.
- Paul Butterworth Student Award (\$4200, "EcoPath"), 2010. With Nadine Amsel.

SCHOLARSHIPS

- Dean's Fellowship, Donald Bren School of Information and Computer Sciences, 2007 - 2011
- National Merit Scholarship, 2002 - 2006

PRESENTATIONS

"Games for Assessing Understanding of Complex Causal Networks", *Mathematics and Computer Science Seminar*, Oct 29, 2012. University of Puget Sound, Washington.

"Persuading 'Negabehaviors' with Pervasive Games and Stories". *Participant, NSF Persuasive Experiences Workshop*. Sept 23-26, 2010. Burbank, California.

"Harnessing the Wisdom of Crowds for Human Computation". *Boaster, Human Computer Interaction Consortium (HCIC)*. Feb 24-28, 2010. Fraser, Colorado.

"Globalizing Cognitive Labor: The Changing Demographics of Amazon Mechanical Turk". *Advancement to candidacy talk*. Dec 9, 2009. UC Irvine, California.

"Social Green-IT". *Guest Speaker, Osher Lifelong Learning Institute*. Nov 5, 2008. UC Irvine, California.

PRESS COVERAGE

"Technical Foundations of Informatics: A modern introduction to R", D. Smith, *Revolutions Blog* (<http://blog.revolutionanalytics.com/>). 05/03/2017. Coverage of online course text.

"Can Computer Code Be Greener? Facebook Thinks So", D. Zax, *FastCompany.com*, 11/12/2010

"Mechanical Turk lets you make a few bucks online", N. Diakopoulos, *The Sacramento Bee*, 7/28/2009

PROFESSIONAL SERVICE

UNIVERSITY SERVICE

- Elected Faculty Council (member), UW iSchool, 2018 - present
- Course Champion: Client-Side Web Development, UW iSchool, 2018 - present
- Ad-hoc Committee on Teaching Quality and Effectiveness (member), UW iSchool, 2016 - present
- Masters in Information Systems (MISM) Admissions Committee (member), UW iSchool, 2015 - 2018
- Recognition & Nomination Committee (member), UW iSchool, 2015 - 2017
- Curriculum Assessment Committee (member), Puget Sound, 2014 - 2015.

PUBLIC SERVICE

- Career and Technical Education Computer Science Advisory Committee (member), Tacoma Public School District, 2015 - 2017

FACULTY ADVISOR

- University of Puget Sound ACM Student Chapter, 2012 - 2015

REVIEWER

- Manuscript: Crowdsourcing and Human Computation (Morgan & Claypool), 2018
- ACM Technical Symposium on Computer Science Education (SIGCSE), 2012 - 2019
- ACM SIGCHI Conference on Human Factors in Computing Systems (CHI), 2008, 2010 - 2015, 2017
- Personal and Ubiquitous Computing (journal), 2015
- ACM Designing Interaction Systems Conference (DIS), 2010, 2012
- ACM Conference on Computer Supported Cooperative Work (CSCW), 2010, 2012
- ACM Computers in Entertainment (CIE), 2010

- ACM Transactions on Computer-Human Interaction (TOCHI), 2010
- IEEE IT Professional Magazine, 2010
- IEEE Computer Graphics and Applications Magazine, 2007

CONFERENCE VOLUNTEER

- Student Volunteer for ACM SIGCHI Conference on Human Factors in Computing Systems (CHI), 2012

MEMBERSHIPS

- Association for Computing Machinery (ACM), 2010 - present
- ACM Special Interest Group on Computer Science Education (SIGCSE), 2011 - present

TECHNICAL SKILLS

- Java, JavaScript/TypeScript (including React.js, Angular.js, Node.js, jQuery), HTML5/CSS3, Python, R, Ruby, PHP, C/C++, MySQL
- Android platform, Ruby on Rails framework
- OpenGL / OpenGL ES / WebGL, Java3D
- git, LaTeX

EMPLOYMENT

Information School, University of Washington, Seattle, WA, 2015 - present

Senior Lecturer

- Taught *Client-Side Web Development, Mobile Development: Android, Software Architecture, Technical Foundations of Informatics, and Introduction to Programming for Information and Data Science*

Math and Computer Science Department, University of Puget Sound, Tacoma, WA, 2012 - 2015

Visiting Assistant Professor

- Taught *Introduction to Computer Science, Computer Science II, Software Engineering, Computer Graphics, Mathematics of Computer Science, and Capstone in Computer Science*

Informatics Department, UC Irvine, CA, 2007 - 2012

Graduate Research Assistant

- Research projects include: EcoRaft, GreenScanner, Peer-to-Peer Sensor Sharing, studies of Amazon Mechanical Turk, retargeting media to mobile devices, Better Carbon, EcoPath/EcoDefender, Negabehavior Games, Thwarting Games, User-Generated Game Design, Causality Project (visualization), *Causlings*
- Supervised and collaborated with multiple undergraduate students on each project

Informatics Department, UC Irvine, CA, 2009 - 2012

Teaching Assistant

- TA for *Social Analysis of Computing, Organizational Information Systems, Game Technologies and Interactive Media, Critical Writing in Information and Computer Science, and Informatics Core II*
- Assisted with course design (writing assignments, choosing readings), ran discussion and lab sections

Summer Session, UC Irvine, CA, 2011

Teaching Associate

- Taught *Critical Writing in Information and Computer Sciences*

Economics and Business Department, Colorado College, 2006 - 2007

Paraprofessional

- Instructed students on use of MS Office software and on creating personal websites
- Established and moderated electronic course evaluation system for department
- Administered department computer lab of 13 computers and 10 laptops