

Alexander J. Quinn ■ Curriculum Vitae

Research interests Human-computer interaction, crowdsourcing, human computation, online labor

Education **University of Maryland**, College Park
Ph.D., Computer Science, August 2014
M.S., Computer Science, June 2009
Topic: Crowdsourcing and human computation for decision support
Advisor: Ben Bederson
Committee: Ben Bederson, Hal Daumé III, Jeffrey S. Foster, Atif Memon, Philip Resnik, Ben Shneiderman

University of Washington, Seattle
B.S., with distinction, Computer Science, June 2002

Employment 2014 – present **Purdue University**, West Lafayette, IN
Assistant Professor, School of Electrical & Computer Engineering

2006 – present **University of Maryland**, College Park, MD
Graduate Research Assistant / Teaching Assistant

Summer 2007 **Library of Congress**, Washington, DC
Software Development Intern

2004 – 2006 **High School of the University of Hyogo**, Hyogo, Japan
Assistant Language Teacher, Japan Exchange and Teaching (JET) Programme

2003 – 2004 **Nordstrom, Inc.**, Seattle, WA
Programmer Analyst, Inventory Systems Division

2002 – 2003 **University of Washington School of Dentistry**, Seattle, WA
Research Assistant / Technical Consultant

2000 – 2003 **OlympusNet**, Port Townsend, WA
Software Developer (part time)

Fall 2000 **University of Washington, Computer Science & Engineering**, Seattle, WA
Spring 2001 Teaching Assistant
Fall 2002

Grants

National Science Foundation. Future of Work at the Human-Technology Frontier (FW-HTF). Karthik Ramani, PI; Thomas Redick, Co-PI; Shimon Nof, Co-PI; Kylie Pepler, Co-PI; Daron Acemoglu, Co-PI. October 1, 2018.
FW-HTF: Collaborative Research: Pre-Skilling Workers, Understanding Labor Force Implications and Designing Future Factory Human-Robot Workflows Using a Physical Simulation Platform
\$2,500,000 (Quinn: \$368,000)

Purdue Research Foundation, Engineering Faculty Conversation Seed Grant. Karthik Ramani, PI; David Cappelleri Co-PI; James V. Krogmeier Co-PI. April 2018.
HRM-II: Humans-Robots-Machines with Spatial and Location Aware Interactive Intelligence
≈\$75,000 (total)

Google. Faculty Research Award. Alexander J. Quinn, PI; Saurabh Bagchi, Co-PI. February 2015.
Man with machine in the battle against fake consumer reviews
\$52,554 (Quinn: \$26,277)

Conference and journal papers

Dusadeerungsikul, P. O., Sreeram, M., He, X., Nair, A., Ramani, K., **Quinn, A. J.**, Nof, S. Y. 2019. Collaboration Requirement Planning Protocol for HUB-CI in Factories of the Future. 25th International Conference on Production Research 2019.

Manam, V. K. C., Jampani, D., Zaim, M. Wu, M, **Quinn, A. J.** 2019. "TaskMate: A Mechanism to Improve the Quality of Instructions in Crowdsourcing." In Companion Proceedings of the 2019 World Wide Web Conference (WWW '19 Companion), May 13–17, 2019, San Francisco, CA, USA. ACM, New York, NY, USA 10 Pages.

V. K. C. Manam, **A. J. Quinn.** "WingIt: Efficient Refinement of Unclear Task Instructions". In the 7th AAAI Conf. on Human Computation and Crowdsourcing (HCOMP 2018). 11 pages. [Acceptance rate: 29.3%, 22/75]

Wu, M. & **Quinn, A. J.** 2017. Confusing the crowd: Task instruction quality on Amazon Mechanical Turk. In *The 5th AAAI Conference on Human Computation and Crowdsourcing (HCOMP '17)*. AAAI, Palo Alto, CA. 10 pages. *In press.* [Acceptance rate: 29%]

Huang, G. & **Quinn, A. J.** 2017. In *Proceedings of the 2017 ACM SIGCHI Conference on Creativity and Cognition (C&C '17)*. ACM, New York, NY, 10 pages. [Acceptance rate: 29%]

Bederson, B. B., Jin, G., Leslie, P., **Quinn, A. J.** & Zou, B. 2016. Incomplete Disclosure: Evidence of Signaling and Countersignaling. *American Economic Journal: Microeconomics*. American Economic Association, Pittsburgh, PH. 45 pages.
<https://www.aeaweb.org/articles?id=10.1257/mic.20150178>

Quinn, A. J. & Bederson, B. B. 2014. AskSheet: Efficient Human Computation for Decision Making with Spreadsheets. In *Proceedings of ACM Conference on Computer Supported Cooperative Work (CSCW '14)*. ACM, New York, NY. 11 pages. [Acceptance rate: 27%]

Bonsignore, E., **Quinn, A. J.**, Druin, A., Bederson, B. B. 2013. Sharing stories in "in the wild": A mobile storytelling case study using StoryKit. *ACM Transactions on Computer-Human Interaction (TOCHI)*. 20, 3, Article 18 (July 2013), 38 pages.

Resnik, P., Buzek, O., Kronrod, Y., Hu, C., **Quinn, A. J.**, Bederson, B. B. 2013. Using Targeted Paraphrasing and Monolingual Crowdsourcing to Improve Translation. *ACM Transactions on Intelligent Systems and Technology (TIST)*. 4, 3, Article 38 (July 2013). ACM, New York, NY. 21 pages.

Quinn, A. J., Bederson, B. B. 2011. Human computation: a survey and taxonomy of a growing field. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '11)*. ACM, New York, NY, USA, 1403-1412. [Acceptance rate: 27%]

Bederson, B. B., **Quinn, A. J.**. 2011. Web workers unite! addressing challenges of online laborers. In *CHI '11 Extended Abstracts on Human Factors in Computing Systems alt.chi (CHI EA '11)*. ACM, New York, NY, USA, 97-106. [Acceptance rate: 59%]

Resnik, P., Buzek, O., Hu, C., Kronrod, Y., **Quinn, A.**, Bederson, B.B. 2010. Improving translation via targeted paraphrasing. In *Proceedings of the 2010 Conference on Empirical Methods in Natural Language Processing (EMNLP '10)*. Association for Computational Linguistics, Stroudsburg, PA, USA, 127-137. [Acceptance rate: 25%]

Druin, A., Bederson, B. B., **Quinn, A.** 2009. Designing intergenerational mobile storytelling. In *Proceedings of the 8th International Conference on Interaction Design and Children (IDC '09)*. ACM, New York, NY, USA, 325-328. [Acceptance rate: 32%]

Bederson, B. B., **Quinn, A.**, and Druin, A. 2009. Designing the reading experience for scanned multi-lingual picture books on mobile phones. In *Proceedings of the 9th ACM/IEEE-CS joint conference on Digital libraries (JCDL '09)*. ACM, New York, NY, USA, 305-308. [Acceptance rate: 29%]

Quinn, A. J., Hu, C., Arisaka, T., Rose, A., Bederson, B., B 2008. Readability of scanned books in digital libraries. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '08)*. ACM, New York, NY, USA, 705-714. [Acceptance rate: 22%]

Wang, T. D., Plaisant, C., **Quinn, A. J.**, Stanchak, R., Murphy, S., Shneiderman, B. 2008. Aligning temporal data by sentinel events: discovering patterns in electronic health records. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '08)*. ACM, New York, NY, USA, 457-466. [Acceptance rate: 22%]

Quinn, A. 2002. An Interrogative Approach to Novice Programming. In *Proceedings of the IEEE 2002 Symposia on Human Centric Computing Languages and Environments (HCC'02)*. IEEE Computer Society, Washington, DC, USA, 83-85.

Workshop papers

Kumavat, A., **Quinn, A. J.** Show Me More! Worker-guided Privacy Filtering for Crowd Video Annotation. *Workshop on Human Computation for Image and Video Analysis (GroupSight) at the AAAI Conference on Human Computation and Crowdsourcing (HCOMP 2016)*. 4 pages.

Bederson, B.B., **Quinn, A.J.**, & Rose, A. 2012. SearchParty: Learning to Search in a Web-based Classroom. In *Proceedings of Educational Interfaces, Software, and Technology (EIST 2012) workshop*, May 2012, ACM, New York, NY.

Dingels, E., Fraser, T., **Quinn, A.** 2007. Generating Java Unit Tests with AI Planning. In *Workshop on Empirical Assessment of Software Engineering Languages and Technologies (ASE 2007)*, Atlanta, GA.

Demos / Posters

Huang, G., **Quinn, A. J.** 2015. BlueSky: Charting entire idea spaces through iterative refinement. Demo and poster at The Third AAAI Conference on Human Computation and Crowdsourcing (HCOMP-2015). http://humancomputation.com/2015/papers/57_Paper.pdf

Software deployments

Restaurant food safety inspections (web site), June 2013

Summary: web-scraped inspection reports from >60 health departments throughout the US
Process: developed architecture and fully-documented API for web scrapers

Supervisors: Professor Ginger Zhe, Professor Phillip Leslie, Professor Ben Bederson
Role: lead developer
Impact: used by economics researchers to analyze effects of public disclosure

A Breath of Spring – Smithsonian Institution Sackler Gallery, May 2011

Summary: tabletop application to view (slide) a 14th century Chinese calligraphy scroll
Process: worked with curators to develop annotations and respectful presentation
Supervisors: Professor Neil Fraistat and Dave Lester
Role: sole developer
Impact: publically deployed in the museum for over 2 years (5/2011 to 10/2013)

Haft Awrang – Smithsonian Institution, Sackler Gallery, May 2011

Summary: tabletop application to view a 15th century painted Persian manuscript
Process: (same as above)
Supervisors: (same as above)
Role: (same as above)
Impact: (same as above)

StoryKit - iOS App Store, September 2009

Summary: mobile application for allowing children to create and share electronic storybooks
Process: designed in collaboration with child and elderly (grandparent) design partners
Supervisors: Professor Allison Druin and Professor Ben Bederson
Role: sole developer
Impact: >187,000 unique users, 1000-6000 uses per day, publications in ToCHI and IDC

World Digital Library – World Digital Library, Summer 2007

Summary: digital library operated by UNESCO and the Library of Congress
Process: \$3 million effort resulting in the initial “prototype” of the site
Supervisors: Michelle Rago and Dr. John Van Oudenaren
Role: designed the temporal dynamic query interface that is used on the landing page
Impact: publically deployed (and still active); presented at FOSS4G '07 conference

CookiePanel, Firefox extension, 2001-2002

Summary: Firefox browser extension to add a sidebar that displays cookies in real-time
Process: extension of earlier work on designing for informed consent online
Supervisor: Professor Batya Friedman
Role: continued development (initially created by Dr. Dan Howe)
Impact: publically deployed on Mozilla extension site and used in the wild

Professional
service

Program committee

AAAI Conference on Human Computation and Crowdsourcing (HCOMP), 2018-2019
ACM Conference on Creativity & Cognition (C&C), 2019
ACM Human Factors in Computing Systems (CHI), associate chair, 2017
ACM Human Factors in Computing Systems (CHI), work-in-progress, 2012, 2013
IEEE SocialCom, Social Media for Human Computation workshop, 2012
ACM WWW, CrowdSearch workshop, 2012

Workshop organizer / co-chair

The 3rd IEEE Workshop on Human-in-the-loop Methods and Human Machine Collaboration in BigData (IEEE HMDData 2019)
Subjectivity, Ambiguity, and Disagreement at HCOMP 2018.
Subjectivity, Ambiguity, and Disagreement at TheWebConf 2019.

Reviewer

AAAI Main Conference, 2019

AAAI Conference on Human Computation and Crowdsourcing (HCOMP), 2016-2019

ACM Computer Supported Cooperative Work (CSCW), 2013-2015

ACM Conference on Creativity & Cognition (C&C), 2019

ACM Human Factors in Computing Systems (CHI), 2009, 2011-2019

ACM Transactions on Intelligent Systems and Technology (TIST), 2012

ACM Symposium on User Interface Software and Technology (UIST), 2015, 2018

AAAI Conference on Human Computation and Crowdsourcing (HCOMP), 2012, 2016

IEEE Internet Computing 2012

The Knowledge Engineering Review, 2015

Journal of the American Society for Information Science and Technology (JASIST), 2012, 2016

World Wide Web conference (WWW), Crowdsourcing track, 2016-2018

Editorial

CrowdResearch.org blog, member of editorial team, 2011-present (inactive)

Student volunteer

ACM Human Factors in Computing Systems (CHI), 2009, 2010

Teaching

Advanced C Programming, instructor, Purdue University, Fall 2014/2015/2016/2017.

Crowd-Powered Systems, instructor, Purdue University, Spring 2015/2017.

Human-Computer Interaction, instructor, Purdue University, Spring 2016.

Human-Computer Interaction, teaching assistant, University of Maryland, Spring 2008

Role: grading projects and homework, office hours

Topics: design methodologies, HCI-related cognitive psychology, graphic design, ethics

Instructor: Professor Ben Bederson

Human-Computer Interaction, teaching assistant, University of Maryland, Fall 2007

Role: (same as Spring 2008)

Topics: (same as Spring 2008)

Instructor: Professor François Guimbretière

English Language, High School of the University of Hyogo, Japan, 2004-2006

Role: Co-taught in a public high school as part of Japan's national JET Programme

Topics: English communication, pronunciation, grammar

Instructors: T. Muneyasu, H. Yokomaku, K. Shimizu, T. Yokoyama, M. Katei, M. Terauchi

Operating Systems, teaching assistant, University of Washington, Fall 2002

Role: taught regular sections, office hours, managed/created projects

Topics: memory, synchronization, file systems, security, processes, threads

Instructor: Professor Gary Kimura.

Computer Programming II, teaching assistant, University of Washington, Spring 2001

Role: teaching regular sections, office hours, grading homework and exams

Topics: object oriented programming in C++, data structures, computational complexity

Instructor: Hal Perkins

Computer Programming I, teaching assistant, University of Washington, Fall 2000

Role: teaching regular sections, office hours, grading homework and exams

Topics: programming in C
Instructor: Dr. Martin Dickey

Advising

Current

Gaoping Huang, PhD student, 2014-
Meng-Han Wu, PhD student, 2014-
Chaithanya Manam, PhD student, 2016-
Abdullah Alshaibani, PhD student, 2016-

Graduated

Sylvia Carrell, MS, 4/2018 – Sandia National Labs
Apeksha Kumavat, MS, 12/2016, "Video annotation by crowd workers with privacy-preserving local disclosure" – Ford, autonomous vehicle group; start-up
Jordan Huffaker, BS, 2017 (worked closely for 2 years) – Univ. of Michigan
Vipul Vishnu Bhat, MS, 5/2016, non-thesis (independent study)

Thesis/advisory
committees

PhD students

Abdullah Alshaibani
Calvin Yau
Cecil Piya (mechanical engineering)
Chaithanya Manam
Constantine Roros
Gaoping Huang
Guizhen Wang
Jiawei Zhang
Jieqiong Zhao
Ke Huo (mechanical engineering)
Luis R Paredes Ayala
Meng-Han Wu
Mosab Abdulaziz Khayat
Nadra Guizani
Sang-Pil Kim (mechanical engineering)
Sang Ho Yoon (mechanical engineering)
Subramanian Chidambaram (mechanical engineering)
Sujin Jang (mechanical engineering)
Tommy Y. Chang
Xun Qian (mechanical engineering)

MS / MSECE students

Ali Baigelenov (computer graphics technology)
Apeksha Dipak Kumavat
Emily Fredette
Frederico Marcolino Quintao Severgnini
Hang Huang
Hanye Xu
Juan Sebastian Martinez Carvajal
Li-Hsin Tseng
Luis R. Paredes Ayala
Mosab Abdulaziz Khayat

Richard M. Marcus
Sachin Kumarswamy (computer graphics technology)
Sang-Won Shim
Weichang Tang
Yi-Ling Chen

Invited lectures "Crowdsourcing and usability". Carleton University; Collaborative Learning of Usability Experiences (CLUE), 11/28/2018.

"Fair pay for crowd-powered list-making." Crowdsourcing and Collective Intelligence workshop of the Ninth International Conference on Complex Systems (ICCS). 7/23/2018.

"Beating AI at its own game with human computation." Dawn Or Doom 2016. West Lafayette, IN. 10/4/2016.

Guest lectures (pre-PhD only) **Querying crowds**, University of Pennsylvania, for Professor Chris Callison-Burch, graduate crowdsourcing course, Fall 2013

Human computation, Johns Hopkins University, for Professor Chris Callison-Burch, undergraduate crowdsourcing course, Spring 2013

Using Mechanical Turk, University of Maryland, for Professor Ben Bederson, graduate social computing course, Fall 2011

Computing ethics, University of Washington, for Professor Steven Tanimoto, undergraduate programming languages course, Winter 2001

Talks **Quinn, A. J.** 2016. Beating AI at its own game with human computation. Dawn Or Doom 2016. West Lafayette, IN. October 4, 2016.

Quinn, A.J., Bederson, B. 2013. Crisp Answers to Fuzzy Questions: Design lessons for crowdsourcing decision inputs. Human-Computer Interaction Lab, Annual Symposium, University of Maryland. May 22, 2013.

Quinn, A.J., Bederson, B. 2012. AskSheet: Frugal Crowdsourcing for Decision Support. Human-Computer Interaction Lab, Annual Symposium, University of Maryland. May 22, 2012.

Quinn, A.J., Yeh, T., Bederson, B. 2011. AppSheet: Crowdsourcing Decision Support Efficiently. Human-Computer Interaction Lab, Annual Symposium, University of Maryland. May 25, 2011.

Quinn, A.J., Bederson, B., Yeh, T., Lin, J. 2010. CrowdFlow: Integrating Machine Learning with Mechanical Turk for Speed-Cost-Quality Flexibility. Human-Computer Interaction Lab, Annual Symposium, University of Maryland. May 27, 2010.

Quinn, A.J., et al. 2009. Intergenerational Stories on iPhones. Human-Computer Interaction Lab, Annual Symposium, University of Maryland. May 28, 2009.

Quinn, A.J., Hu, C., Arisaka, T., Rose, A., Bederson, B. 2008. Improving the Reading Experience in the International Children's Digital Library. Human-Computer Interaction Lab, Annual Symposium, University of Maryland. May 29, 2008.

Quinn, A.J. 2007. World Digital Library: Designing a Multi-lingual Geographic Search Interface. Free and Open Source Software for Geospatial (FOSS4G '07). September 26, 2007.

Tutorial **Crowdsourcing with Amazon Mechanical Turk**, University of Maryland, Human-Computer Interaction Lab Annual Symposium, with Tom Yeh, 2011.

Industry
experience **Nordstrom, Inc.**, programmer analyst, 2003-2004
Created and maintained business intelligence applications for the company's inventory management and merchandising decision processes.

University of Washington School of Dentistry, technical consultant, 2002
Set up experimental apparatus, developed tools, and helped with experiment design for an orthodontics study that used computer psychometrics to measure subjects' perceptions about different facial shapes (e.g. convex, concave, etc.). The project was directed by Professor H. Asuman Kiyak.

OlympusNet, developer, 2000-2003
Developed desktop and server applications for a regional internet service provider.