

Alexander J. Quinn

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EDUCATION

University of Maryland - College Park

- **PhD in Computer Science, in progress**, 2006-present
- Master of Science in Computer Science completed June 2009.
- Working in the Human-Computer Interaction Lab (HCIL).
- Dissertation topic: Crowdsourcing and human computation for decision support
- Advised by Ben Bederson.

University of Washington

- **Bachelor of Science in Computer Science**, with Distinction, June 2002.
- Emphasis in human computer interaction.

RESEARCH

Crowdsourcing Decision Support, University of Maryland, 2010-present

- Dissertation work is a framework for integrating human help from a variety of sources to make complex decisions and analyses more efficiently.
- Advised by Ben Bederson.

Search Party: Technology for Teaching How to Search, University of Maryland, 2011-present

- Currently developing technology to support classroom peer learning of how to search.
- Advised by Ben Bederson.

Improving Machine Translation With Crowdsourcing, University of Maryland, Summer 2010

- Built experimental apparatus that used workers on Mechanical Turk to enhance results of machine translation through targeted paraphrasing.
- Published at EMNLP 2010 conference.
- Accepted for publication in ACM TIST journal, to appear in January 2012.
- Advised by Philip Resnik and Ben Bederson.

Tabletop Interfaces for Art Museums and Libraries, University of Maryland, 2009-2011

- Developed applications for Microsoft Surface, including interfaces for viewing historic Asian scrolls and manuscripts held by the Smithsonian Freer and Sackler Galleries.
- Deployed at the Smithsonian Sackler Gallery beginning in May 2011.
- Advised by Neil Fraistat.

CrowdFlow: Human Computation + Machine Learning, University of Maryland, 2009-2010

- Developed a software framework for blending paid crowdsourced labor with machine learning algorithms for applications in natural language processing, computer vision, etc.
- Advised by Ben Bederson and Jimmy Lin.

StoryKit: Mobile Application Design, University of Maryland, 2008-2009

- Developed StoryKit, an iPhone application for creating and sharing electronic storybooks.
- Designed in collaboration with children and elder adults as design partners.
- Published at IDC 2009 conference.
- >187,000 unique users since launch on App Store.
- 1000 to 5000 uses per day (as of October 2011).
- Advised by Ben Bederson and Allison Druin.

World Digital Library, Library of Congress, Summer 2007

- Created exploratory prototypes for temporal+geospatial visualization and navigation as part of the initial development on this UNESCO project (<http://www.wdl.org/en/>).
- Designed the dynamic timeline interface that is used on the WDL landing page.
- Presented work at FOSS4G 2007 conference.
- Supported by Michelle Rago and John Van Oudenaren.

Readability in the International Children's Digital Library, University of Maryland, 2006-2007

- Methods for enhancing readability on the ICDL, a web site containing the largest free online collection of exemplary children's books of children's books.
- Published at CHI 2008 conference.
- Advised by of Ben Bederson.

Visualization of Temporal Data, University of Maryland, 2006-present

- Developed a visualization for understanding multiple event histories relative to some sentinel event that is common to each of the event histories, as an extension of the larger LifeLines effort in temporal event visualization.
- Published at CHI 2008 conference and continued by Taowei Wang.
- Advised by Ben Shneiderman and Catherine Plaisant.

Informed Consent in Web Browsers, University of Washington, 2001-2002

- Development of a Mozilla/Firefox browser extension to display cookies in the sidebar in real-time in order to help web users be more aware of privacy issues with cookies. Part of a larger effort in Value Sensitive Design and informed consent online.
- Released Firefox extension on official Mozilla add-on web site.
- Advised by Batya Friedman.

Interrogative Programming, University of Washington, 2001-2002

- Developed system for programming by novices. Computer asks user questions to determine the desired program behavior and then generates code to implement it.
- Published at HCC 2002 conference.
- Presented in various undergraduate research symposia at University of Washington.
- Advised by Steve Tanimoto.

Evaluating Facial Profile Preferences, University of Washington School of Dentistry, 2002

- Technical consultant on an orthodontics study that used computer psychometrics (Implicit Association Test) to measure people's perceptions about different facial shapes (e.g. convex, concave, etc.). Set up experimental apparatus, developed tools, and aided in experiment design.
- Basis of a Master's project and subsequent journal publication by M. Gabriela Orsini.
- Directed by H. Asuman Kiyak and M. Gabriela Orsini.

PUBLICATIONS

Resnik, P., Buzek, O., Kronrod, Y., Hu, C., **Quinn**, A. J., Bederson, B. B. Using Targeted Paraphrasing and Monolingual Crowdsourcing to Improve Translation. To appear in *ACM Transactions on Intelligent Systems and Technology*, Jan. 2012.

Quinn, A. J., Bederson, B. B. Human Computation: A Survey and Taxonomy of a Growing Field. In *Proceedings of the SIGCHI conference on Human Factors in computing systems (CHI 2011)*, ACM, New York, NY.

Bederson, B. B., **Quinn**, A. J. Web Workers Unite! Addressing Challenges of Online Laborers. In *Extended Abstracts of the SIGCHI conference on Human Factors in computing systems alt.chi (CHI EA 2011)*, ACM, New York, NY.

- Resnik, P., Buzek, O., Hu, C., Kronrod, Y., **Quinn, A.**, & Bederson, B.B. (2010) Improving Translation via Targeted Paraphrasing, *Proceedings of Conference on Empirical Methods in Natural Language Processing (EMNLP 2010)*.
- Druin, A., Bederson, B. B., **Quinn, A. J.** Designing Intergenerational Mobile Storytelling. In *Proceedings of 8th International Conference on Interaction Design and Children (Como, Italy, June 3 - 5, 2009)*. IDC '09 Workshop on Children and Mobile Technology: Interface Development for Mobile Touch Devices). ACM, New York, NY.
- Bederson, B. B., **Quinn, A. J.**, 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 (Austin, Texas, USA, June 15 - 19, 2009)*. JCDL '09. ACM, New York, NY.
- Quinn, A. J.**, Hu, C., Arisaka, T., Rose, A., Bederson, B., B. Readability of Scanned Books in Digital Libraries. In *Proceedings of the SIGCHI conference on Human Factors in computing systems (CHI 2008)*, Florence, Italy.
- Wang, T. D., Plaisant, C., **Quinn, A. J.**, Stanchak, R., Murphy, S., Shneiderman, B. 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 2008)*, Florence, Italy.
- Dingels, E., Fraser, T., **Quinn, A.** Generating Java Unit Tests with AI Planning. In Workshop on Empirical Assessment of Software Engineering Languages and Technologies (ASE 2007), Atlanta, GA.
- Quinn, A.** (2002). An Interrogative Approach To Novice Programming. *IEEE Symposia On Human Centric Computing Languages and Environments*, Alexandria, VA.

TEACHING

- Teaching Assistant, Human-Computer Interaction**, University of Maryland, Spring 2008
- Course covers fundamentals of interaction, HCI-related cognitive psychology, design methodologies, graphic design, and ethical implications.
 - Graded projects/homework and held office hours.
 - Directed Ben Bederson.
- Teaching Assistant, Human-Computer Interaction**, University of Maryland, Fall 2007
- Same content/responsibilities as Spring 2008 (above).
 - Directed by François Guimbretière.
- Assistant Language Teacher**, High School of the University of Hyogo, Japan, 2004-2006
- (See details below, under *Work Experience*.)
- Teaching Assistant, Operating Systems**, University of Washington, Fall 2002
- Course covers operating system principles in theory and in practice.
 - Taught regular sections, held office hours, and managed/graded projects.
 - Developed new project that had students create a user-level heap allocator.
 - Directed by Gary Kimura.
- Teaching Assistant, Computer Programming II**, University of Washington, Spring 2001
- Course covers programming C++, object oriented programming concepts, data structures, and basic computational complexity.
 - Taught regular sections, held office hours, and graded homework and exams.
 - Directed by Hal Perkins.

Teaching Assistant, Computer Programming I and II, University of Washington

- Course introduces programming in C.
- Taught regular sections, held office hours, and graded homework and exams.
- Directed by Martin Dickey.

WORK EXPERIENCE

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

- Co-taught English classes at a science-oriented public high school in Japan.
- Part of the JET Programme, a national program aimed at culturally diversifying Japan.
- Learned Japanese language and culture.
- Attended the annual Kansai Linguistics Society academic conference in 2004.

Programmer Analyst, Nordstrom, Inc., 2003-2004

- Created and maintained a large set of data reporting applications for providing analysis about inventory management and merchandise assortment in the internet and catalog division.
- Created systems for predicting sales in detail ahead of time to allow inventory managers to order just the right amount of product.
- Designed and built dynamic reporting tools to give information at many different levels of detail and focus to company executives and managers.

Software Developer, OlympusNet, 2000-2003

- Created desktop and server applications critical to the business of a regional internet service provider.
- Used Java to create a text editor and remote file manager for use by users of OlympusNet's WebKeystone web application framework.
- Used Python to create glue code to scan incoming and outgoing email for viruses using a commercial virus scanner and a MIME attachment decoder.
- Full telecommute position.

GRADUATE COURSEWORK

Device Prototyping (Francois Guimbretiere)

Software Testing (Atif Memon)

Automated Planning (Dana Nau)

Information Visualization (Ben Shneiderman)

Networks (Neil Spring)

Distributed System (Pete Keleher)

Parallel Algorithms (Clyde Kruskal)

Creativity Support Tools (Vibha Sazawal)

Graphics (Amitabh Varshney)

Computer Vision (Yiannis Aloimonos)

Human-Computer Interaction (Alan Borning – University of Washington)

Computational Neuroscience (Raj Rao – University of Washington)

TECHNOLOGIES

Primary: Python, C/C++, Java, DHTML/AJAX (JavaScript, CSS, XML), SQL, VBA

Secondary: Perl, assembly language, lex/yacc, bash shell scripting

FOREIGN LANGUAGES

Japanese

HONORS

Graduation with Distinction in Computer Science, University of Washington

Martin Family Scholarship, University of Washington

Block Fellowship, University of Maryland

Jacob Goldhaber Travel Grant, University of Maryland