

# Alexandra To

PHD STUDENT · HUMAN-COMPUTER INTERACTION

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## Education

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### Carnegie Mellon University

PHD IN HUMAN-COMPUTER INTERACTION

- Human Computer Interaction Institute | School of Computer Science
- **Advisors:** Dr. Jessica Hammer and Dr. Geoff Kaufman

*Pittsburgh, PA*

*Aug. 2015 - PRESENT*

### Stanford University

M.S. IN SYMBOLIC SYSTEMS

- Symbolic Systems Program | School of Humanities and Sciences
- **Advisor:** Dr. Michael Bernstein

*Stanford, CA*

*Jun. 2014 - Jun. 2015*

### Stanford University

B.S. IN SYMBOLIC SYSTEMS

- Symbolic Systems Program | School of Humanities and Sciences
- Minor: Asian American Studies
- **Advisor:** Dr. Michael Bernstein

*Stanford, CA*

*Sept. 2010 - Jun. 2014*

## Honors & Awards

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- 2017 **Best Paper Award**, ACM CHI 2017 (top 1%)  
**University/Post-Secondary Student Honorable Mention**, Carnegie Science Awards
- 2016 **Best Student Non-Digital Game, “Outbreak”**, Meaningful Play 2016  
**People’s Choice Game, “Outbreak”**, Meaningful Play 2016  
**Graduate Student Assembly/Provost Conference Funds**, Carnegie Mellon University
- 2014 **Best Paper Award**, ACM UIST 2014  
**B.S. Conferred with Honors**, Stanford University

## Peer-Reviewed Publications

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12. **To, A.**, McDonald, J., Holmes, J., Hammer, J., Kaufman, G. (2018). Character Diversity in Digital and Non-Digital Games. TO APPEAR In Proc. ToDiGRA Diversity Special Issue
11. **To, A.**, Holmes, J., Fath, E., Zhang, E., Kaufman, G., Hammer, J. (2018). Modeling and Designing for Key Elements of Curiosity: Risking Failure, Valuing Questions. TO APPEAR In Proc. ToDiGRA Special Issue, Selected Papers from DiGRA 2017.
10. **To, A.**, Holmes, J., Fath, E., Zhang, E., Kaufman, G., Hammer, J. (2017). Modeling and Designing for Key Elements of Curiosity: Risking Failure, Valuing Questions. In Proc. DiGRA 2017.
9. **To, A.**, Hammer, J., Kaufman, G. (2017). Character Diversity in Digital and Non-Digital Games. In Proc. DiGRA 2017 Gaming the Systems: Towards a More Inclusive DiGRA Workshop.
8. **To, A.**, Kaufman, G., Hammer, J. (2017). Scaffolding Conversation through the Design and Implementation of Board Games. In Proc. DiGRA 2017 Boardgame Studies Round Table Workshop.
7. Valentine, M., Retelny, D., **To, A.**, Rahmati, N., Doshi, T., Kim, M., Fonua, M., Bernstein, M. (2017). Flash Organizations: Crowdsourcing Complex Work by Structuring Crowds as Organizations. In Proc. CHI 2017. **Best Paper Award** 🏆

6. **To, A.**, Fath, E., Zhang, E., Ali, S., Kildunne, C., Fan, A., Hammer, J., Kaufman, G. (2016). Tandem Transformational Game Design: A Game Design Process Case Study. In Proc. Meaningful Play 2016.
5. **To, A.**, Fan, A., Kildunne, C., Zhang, E., Kaufman, G., Hammer, J. (2016). Treehouse Dreams: A Game-Based Method for Eliciting Interview Data from Children. In Proc. CHI Play 2016.
4. **To, A.**, Ali, S., Kaufman, G., Hammer, J. (2016). Integrating Curiosity and Uncertainty in Game Design. In Proc. DiGRA/FDG 2016.
3. Nebeling, M., **To, A.**, Guo, A., de Freitas, A., Teevan, J., Dow, S., Bigham, J. (2016). WearWrite: Crowd-Assisted Writing from Smartwatches. In Proc. CHI '16.
2. Retelny, D., Robaszkiewicz, S., **To, A.**, Lasecki, W., Patel, J., Doshi, T., Valentine, M., Bernstein, M. (2014). Expert Crowdsourcing with Flash Teams. In Proc. UIST '14. **Best Paper Award** 🏆
1. Retelny, D., Robaszkiewicz, S., **To, A.**, Bernstein, M. (2013). Enabling Expert Crowdsourcing with Flash Teams. In Proc. CrowdConf 2013.

## Other Publications

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5. **To, A.**, Kaufman, G., Hammer, J. 2017. Designing Affective Supports for Curiosity in Games. In Proc. CHI '17 Designing for Curiosity Workshop.
4. Nebeling, M., **To, A.**, Guo, A., de Freitas, A., Teevan, J., Dow, S., Bigham, J. 2016. WearWrite: Crowd-Assisted Writing from Smartwatches. In Proc. CHI '16 Productivity Decomposed Workshop.
3. Nebeling, M., Guo, A., **To, A.**, Dow, S., Teevan, J., Bigham, J. 2015. WearWrite: Orchestrating the Crowd to Complete Complex Tasks from Wearables. In Proc. UIST '15 Demos.
2. **To, A.**. 2015. Experts On Demand: Enabling Flash Organizations with Rapid Onboarding. Masters Thesis, Symbolic Systems Program. Readers: Michael Bernstein, Melissa Valentine
1. **To, A.**. 2014. Foundry: Managing Teams of Experts Online. Senior Honors Thesis, Symbolic Systems Program. Readers: Michael Bernstein, Daniela Retelny

## Research Experience

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### Character Diversity in Games

CARNEGIE MELLON UNIVERSITY HCII

*Pittsburgh, PA*

*Feb. 2016 - PRESENT*

- With: Jessica Hammer, Geoff Kaufman, Joselyn McDonald
- Exploring how digital and non-digital games express diversity (i.e., representations of marginalized groups to which player may or may not belong) through characters.

### Sensing Curiosity in Play and Responding (SCIPR)

CARNEGIE MELLON UNIVERSITY HCII

*Pittsburgh, PA*

*Aug. 2015 - PRESENT*

- With: Jessica Hammer, Geoff Kaufman, Elaine Fath, Safinah Ali, Zhen Bai
- Designing, and researching game-based interventions for marginalized science identity middle school students

## **WearWrite**

CARNEGIE MELLON UNIVERSITY HCII

Pittsburgh, PA

July. 2015 - Sept. 2015

- With: Steven Dow, Jeff Bigham, Michael Nebeling
- Exploring shepherding the crowd through a smart watch. Contributed development to front end interface, designed lab protocol, running the study, and writing paper publication.

## **Flash Organizations**

STANFORD UNIVERSITY HCI GROUP

Stanford, CA

Jun. 2014 - Jun. 2015

- With: Michael Bernstein, Daniela Retelny, Negar Rahmati, Tulsee Doshi
- Scaling up the team capabilities of the expert crowd. Combining HCI and organizational behavior research to examine how the online expert crowd can come together like an org. More work developing our online platform, Foundry, as well as developing and testing of theoretical framework.

## **Chinese Railroad Workers in North America Project**

STANFORD UNIVERSITY ASIAN AMERICAN STUDIES

Stanford, CA

Sept. 2013 - Dec. 2013

- With: Gordon Chang
- Mining America's Historical archive newspapers for information searching specifically for anything that references Chinese railroad workers to compile and attempt to learn more about these individuals.

## **Flash Teams**

STANFORD UNIVERSITY HCI GROUP

Stanford, CA

Jun. 2013 - Sept. 2013

- With: Michael Bernstein, Daniela Retelny, Sébastien Robaszkiewicz
- Creating lightweight modular team structures to guide teams of expert crowd workers. Developed an online platform, Foundry, for the authorship and run-time coordination of these teams.

## **MLK Jr. Digital History**

STANFORD UNIVERSITY SYMBOLIC SYSTEMS PROGRAM

Stanford, CA

Jun. 2012 - Sept. 2012

- With: Todd Davies, Clay Carson
- Work jointly with the Symbolic Systems Program and the Martin Luther King Jr. Institute. Designing a collaborative history online platform to engage a wide audience with digital history as well as designing research studies.

## **Teaching Experience**

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### **Teaching Assistant, Programming Usable Interfaces (05-430/05-630)**

HUMAN-COMPUTER INTERACTION INSTITUTE AT CARNEGIE MELLON UNIVERSITY

2017

*Responsibilities:* Lead lab section of the class covering prototyping and web programming skills and hosting hands-on activities in lab; Wrote homework, quiz, and exam questions; Held office hours and graded design and web programming assignments;

### **Teaching Assistant, Navigating Race and Identity in America (85-357)**

PSYCHOLOGY DEPARTMENT AT CARNEGIE MELLON UNIVERSITY

2017

*Responsibilities:* Contributed to syllabus design; Write and grade weekly reading quizzes; Grade weekly reading responses; Teaching two lectures and guiding discussions on identity and adolescence;

### **Teaching Assistant, Minds and Machines (SymSys 100)**

SYMBOLIC SYSTEMS PROGRAM AT STANFORD UNIVERSITY

2014

*Responsibilities:* Lead discussion section of the class covering topics including: cognitive science, philosophy of mind, computation, and decision making; Designed several sections' curriculum; Wrote homework and exam essay questions; Held office hours and graded assignments;

### **Course Assistant, Human-Computer Interaction Seminar (CS 547)**

COMPUTER SCIENCE DEPARTMENT AT STANFORD UNIVERSITY

2014

*Responsibilities:* Organize seminar; Manage schedule for speaker to visit with faculty and students; Manage a script that records attendance; Curate videos of seminar;

## **Work Experience**

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## Design Intern

SHELL GAMES

May 2017 - Aug. 2017

Working on an interdisciplinary team with eleven game designers, artists, and developers working on transformational game design for a digital app. Gathered and synthesized research related to the project's transformational goals, contributed to design brainstorms and iteration, and wrote narrative content.

## Residential Computer Consultant

RESIDENTIAL COMPUTING AT STANFORD UNIVERSITY

2013-2015

Aided residents on campus with technology issues including common hardware and software failures and Internet connection. Managed residential computing cluster machines. Hosted technology-based events aimed at increasing comfort with technology and for social bonding in residence.

## Head Student Advisor

BING OVERSEAS STUDY PROGRAM AT STANFORD UNIVERSITY

2013-2015

Managed a team of 25 student advisors for 12 study abroad programs. Organized outreach events in all freshman dorms as well as engineering and athlete programs, coordinated student advisors, put together promotional materials. This role was created specifically for me after my first year as a student advisor.

## Student Advisor - Beijing

BING OVERSEAS STUDY PROGRAM AT STANFORD UNIVERSITY

2012-2013

Consulted with and advised undergraduates interested in studying abroad in Beijing, China. Organized outreach events to recruit potential study abroad students and hosted office hours for frequently asked questions about the program and applications to the program.

## Leadership & Training

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I have 4 years experience managing and mentoring research interns and assistants performing original research work, software development, UI design, and game design both remotely and in co-located teams.

To give a specific example, in the first summer of my PhD I managed a team of five novice researchers and designers and in three months we: submitted and published two peer-reviewed publications, designed and implemented two digital game prototypes, designed and iteratively produced four non-digital games, ran over 150 playtests with adolescent students, and won two game design awards for one of our non-digital games.

I am happy to speak further about my leadership and mentorship experiences.

## Presentations

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2. IN MEDIA RES, THEME WEEK: TRANSFORMATIVE GAMES  
"Tandem Transformational Game Design"
1. INNOVATION WITH IMPACT 2017, CARNEGIE MELLON UNIVERSITY  
"Treehouse Dreams: A Game-Based Method for Eliciting Interview Data from Children"

## Service

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<b>Selection Committee</b>	Carnegie Science Awards 2018
<b>Student Volunteer</b>	CHI Play 2016, DiGRA 2017
<b>Paper Reviewer</b>	DiGRA/FDG 2016, Creativity & Cognition 2017, CHI 2018
<b>LBW/WiP Reviewer</b>	MobileHCI 2017, CHI Play 2017
<b>Student Game Reviewer</b>	CHI 2016

## Skills

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**Research Methods** Interviewing, Grounded Theory, Controlled Lab Experiments, Think Aloud Study Protocols, Studies with Children, Ethnomethodology, Surveys

**User-Centered Design** Paper Prototyping, Rapid Iterative Prototyping, UI Wireframing, Heuristic Evaluation, Storyboards, Playtesting, Cognitive Task Analysis, Transformational Game Design, Playtesting

**Programming** Javascript, HTML5, CSS, jQuery, C/C++

## Media

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07/2017 **New York Times**, The Pop-Up Employer: Build a Team, Do the Job, Say Goodbye

11/2016 **HCI News & Events**, HCI & ETC Student Game Brings Home Best Student Game and People's Choice Award

08/2014 **Stanford News**, Stanford's Symbolic Systems program bridges the gap b/t humanity and technology

08/2014 **Stanford News**, Stanford team looks to take crowdsourcing to a whole new level