Alexandra **To**

PhD Student · Human-Computer Interaction

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Education

Carnegie Mellon University — *Pittsburgh, PA*

PhD in Human-Computer Interaction — *Aug. 2015 - PRESENT*

- Human Computer Interaction Institute | School of Computer Science
- Thesis Proposal [Passed June 2019]: "*Empowering Uncertainty Resolution for Vulnerable Populations* "
- **Advisors:** Jessica Hammer and Geoff Kaufman

Stanford University — *Stanford, CA*

M.S. in Symbolic Systems — *Jun. 2014 - Jun. 2015*

- Symbolic Systems Program | School of Humanities and Sciences
- Thesis: "*Experts On Demand: Enabling Flash Organizations with Rapid Onboarding*"
- **Advisor:** Michael Bernstein

Stanford University — *Stanford, CA*

B.S. in Symbolic Systems — *Sept. 2010 - Jun. 2014*

- Symbolic Systems Program | School of Humanities and Sciences
- Thesis: "*Foundry: Managing Teams of Experts Online*"
- Minor: Asian American Studies
- **Advisor:** Michael Bernstein

Honors & Awards

2018 **Graduate Student Small Project Funding Award**, CMU GSA / Vice Provost's Office

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

16. Holmes, J., **To, A.**, Zhang, F., Park, S.E., Ali, S., Bai, Z., Kaufman, G., Hammer, J. (2019). A Good Scare: Leveraging Game Theming and Narrative to Impact Player Experience. TO APPEAR IN Proc. CHI '19 Late-Breaking Work.

15. **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. In Proc. ToDiGRA Special Issue, Selected Papers from DiGRA 2017, Vol 4.2

14. Fath, E., **To, A.**, Kaufman, G., Hammer, J., (2018). Designing an Inclusive Playtesting Process Using Cognitive Load Theory. In Proc. Meaningful Play 2018

13. Ali, S., **To, A.**, Bai, Z., Holmes, J., Fath, E., Kaufman, G., Hammer, J. (2018). Transition from Goal Driven Game Design to Game Driven Goal Delineation in Tandem Transformational Game Design. In Proc. Meaningful Play 2018

12. Hammer, J., **To, A.**, Schrier, K., Bowman, S.L., Kaufman, G. (2018). Learning and Role-Playing Games. *Role-Playing Game Studies*

11. **To, A.**, McDonald, J., Holmes, J., Hammer, J., Kaufman, G. (2018). Character Diversity in Digital and Non-Digital Games. In Proc. ToDiGRA Diversity Special Issue, Vol 4.1

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

9. **To, A.**, Kaufman, G., Hammer, J. Mitigating Vicarious Trauma in Conducting Sensitive Research. TO APPEAR in Proc. CHI '19 Sensitive Research, Practice, and Design in HCI Workshop.

8. **To, A.**, Hammer, J., Kaufman, G. Promoting Digital Wellbeing by Empowering Users from Racial Minority Groups. TO APPEAR in Proc. CHI '19 Designing for Digital Wellbeing Workshop.

7. **To, A.**, Ali, S., Kaufman, G., Hammer, J. Integrating Curiosity and Uncertainty in Game Design. (in press) Curiosity Research in HCI.

6. Deterding, S., Smith, D., Powley, E.J., Hammer, J., **To, A.**, Guckelsberger, C. 2018. Curiosity in Games: An Interdisciplinary Workshop. In Proc. FDG '18 Workshops.

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 (Academic)

Critical Race Theory & HCI
Pittsburgh, PA

Carnegie Mellon University HCII — *Jun. 2019 - PRESENT*

- With: Ihudiya Finda Ogbonnaya-Oburu, Angela Smith, Kentaro Toyama
- Exploring and defining the intersection of Critical Race Theory and Human-Computer Interaction

Coping After Racist Experiences (CARE)
Pittsburgh, PA

Carnegie Mellon University HCII — *Jan. 2018 - PRESENT*

- With: Jessica Hammer, Geoff Kaufman
- Exploring the development of racial and ethnic identity, peoples experiences with racism in personal interactions, and how they respond to them and develop resilience through communication with others in their social networks.

Character Diversity in Games
Pittsburgh, PA

Carnegie Mellon University HCII — *Feb. 2016 - Jan. 2018*

- 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)
Pittsburgh, PA

Carnegie Mellon University HCII — *Aug. 2015 - Dec. 2018*

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

WearWrite
Pittsburgh, PA

Carnegie Mellon University HCII — *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, CA

Stanford University HCI Group — *Jun. 2014 - Jun. 2015*

- With: Michael Bernstein, Melissa Valentine, 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, CA

Stanford University Asian American Studies

Sept. 2013 - Dec. 2013

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

Flash Teams

Stanford, CA

Stanford University HCI Group

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, CA

Stanford University Symbolic Systems Program

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

Teaching Assistant, User-Centered Research & Evaluation (05-410/05-610)

Human-Computer Interaction Institute at Carnegie Mellon University *2019*

Instructors of Record: Amy Ogan and Raelin Musuraca

Responsibilities: Lead workshop section covering user-centered research methods and practice; Producing homework and course content, holding office hours, and grading research methods assignments.

Teaching Assistant, Programming Usable Interfaces (05-430/05630)

Human-Computer Interaction Institute at Carnegie Mellon University *2017*

Instructor of Record: Jason Hong

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*

Instructor of Record: Kody Manke

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*

Instructors of Record: Dan Lassiter, Thomas Icard, Todd Davies

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*

Instructor of Record: Michael Bernstein

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

UX Research Intern

Facebook, Inc. *May 2018 - Aug. 2018*

Working on the Emerging Verticals team conducting qualitative research (e.g., diary studies, interviews) with small business owners and consumers.

Design Intern

Schell 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

I have more than 5 years experience managing and mentoring research interns and assistants performing original research work, software development, UI design, research through design prototyping, 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: 1) submitted and published two peer-reviewed publications, 2) designed and implemented two digital game prototypes, 3) designed and iteratively produced four non-digital games, 4) ran over 150 playtests with adolescent students, and 5) 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

4. Innovation with Impact, Carnegie Mellon University *2019*
   " "They Just Don't Get It": Support Seeking for Racist Experiences"

3. Stanford University HCI Group Lunch Seminar *2018*
   "Supporting Curiosity-Driven Question-Asking with a Transformational Game"

2. In Media Res, Theme Week: Transformative Games *2017*
   "Tandem Transformational Game Design"

1. Innovation with Impact, Carnegie Mellon University *2017*
   "Treehouse Dreams: A Game-Based Method for Eliciting Interview Data from Children"

Service

Program Committee	DiGRA 2018 “Users” Track, DiGRA 2019 “Making Sense of Play and Players” Track
Student Volunteer	CHI Play 2016, DiGRA 2017
Paper Reviewer	DiGRA/FDG 2016, Creativity & Cognition 2017, CHI 2018 Meaningful Play 2018, IDC 2019
LBW/WiP/Poster Reviewer	MobileHCI 2017, CHI Play 2017, CHI 2019, Creativity & Cognition 2019
Student Game Reviewer	CHI 2016
Faculty Hiring Committee	CMU HCII 2019
Selection Committee	Carnegie Science Awards 2018, Carnegie Science Awards 2019
Logistics Committee	Pittsburgh Racial Justice Summit 2019
Alumni Volunteer Interviewer	Stanford University Undergraduate Admissions 2019

Skills

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, Competitive Analysis, Contextual Inquiry
Programming	Javascript, HTML5, CSS, jQuery, C/C++

Media

01/2019 **CMU News**, Alumnus, Students Join Pittsburgh Community at Racial Justice Summit

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

11/2016 **HCII News & Events**, HCII & 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