

# Alexandra To

PHD CANDIDATE · 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

- 2020 **SIGCHI Development Fund Grant (\$15,000)**, “Engaging in Race in HCI”, ACM SIGCHI **Best Paper Award**, ACM CHI 2020 (top 1%)
- 2018 **Graduate Student Small Project Funding Award (\$750)**, 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

\*Indicates shared authorship position

19. Carey, H., **To, A.**, Hammer, J., Kaufman, G. *Fictional, Interactive Narrative as a Foundation to Talk about Racism*. [IN PRESS] DIS 2020 Work-in-Progress.
18. **To, A.**, Sweeney, W., Hammer, J., Kaufman, G. “They Just Don’t Get It”: Towards Social Technologies for Coping with Interpersonal Racism. [IN PRESS] CSCW 2020.
17. [**To, A.**, Ogbonnaya-Ogburu, I.F., Smith, A.]\*, Toyama, K. *Critical Race Theory for HCI*. In Proc. CHI 2020.  
**Best Paper Award** 🏆

16. Holmes, J., **To, A.**, Zhang, F., Park, S.E., Ali, S., Bai, Z., Kaufman, G., Hammer, J. (2019). *A Good Score: Leveraging Game Theming and Narrative to Impact Player Experience*. In Proc. CHI 2019 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 & Workshops

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11. Hammer, J., **To, A.**, Principe Cruz, E. *Lab Counterculture*. In CHI 2020 alt.CHI.
10. Smith, A., Ahmed, A., Alvarado Garcia, A., Dosono, B., Ogbonnaya-Ogburu, I., Rankin, Y., **To, A.**, Toyama, K. *What's Race Got to Do With It? Engaging in Race in HCI*. In CHI 2020 Workshops [organized virtually].
9. **To, A.**, Kaufman, G., Hammer, J. *Mitigating Vicarious Trauma in Conducting Sensitive Research*. In Proc. CHI 2019 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*. In Proc. CHI 2019 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 2018 Workshops.
5. **To, A.**, Kaufman, G., Hammer, J. 2017. *Designing Affective Supports for Curiosity in Games*. In Proc. CHI 2017 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 2016 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 2015 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)

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### Critical Race Theory & HCI

CARNEGIE MELLON UNIVERSITY HCII

Pittsburgh, PA

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.

## **Data-Driven Diversity (D3) Lab**

*Pittsburgh, PA*

CARNEGIE MELLON UNIVERSITY HCII

*Sept. 2018 - PRESENT*

- With: Kody Manke, Linda Babcock, Geoff Kaufman
- Consulting with D3 lab on projects understanding how different groups experience student success, thriving, and a sense of belonging at Carnegie Mellon University.

## **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 using HCI and organizational behavior research. 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 specifically 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

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### 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

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### 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

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 brainstorm 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.

## Presentations

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| 9. | MICROSOFT RESEARCH<br>"Critical Race Theory for HCI" - Co-Presented with Ihudiya Finda Ogbonnaya-Ogburu, Angela Smith  | 2020 |
| 8. | INNOVATION WITH IMPACT, CARNEGIE MELLON UNIVERSITY<br>"Fictional, Interactive Narrative as a Foundation to Talk about Racism"  | 2020 |
| 7. | WOMEN IN DATA SCIENCE (WiDs) @ CMU<br>Virtual Panel  | 2020 |
| 6. | CMU HCII/PHILIPS HEALTH FUNDER MEETING<br>"SleepyGames Research Presentation" - Co-Presented with Adela Kapuścińska  | 2019 |
| 5. | MOSAIC ANNUAL CONFERENCE ON INTERSECTIONALITY, CARNEGIE MELLON UNIVERSITY<br>"Incorporating Intersectionality in Your Research" - Co-Facilitated with Judeth Oden Choi | 2019 |
| 4. | INNOVATION WITH IMPACT, CARNEGIE MELLON UNIVERSITY<br>" "They Just Don't Get It": Support Seeking for Racist Experiences"  | 2019 |
| 3. | STANFORD UNIVERSITY HCI GROUP LUNCH SEMINAR<br>"Supporting Curiosity-Driven Question-Asking with a Transformational Game"  | 2018 |
| 2. | IN MEDIA RES, THEME WEEK: TRANSFORMATIVE GAMES<br>"Tandem Transformational Game Design"  | 2017 |
| 1. | INNOVATION WITH IMPACT, CARNEGIE MELLON UNIVERSITY<br>"Treehouse Dreams: A Game-Based Method for Eliciting Interview Data from Children"                               | 2017 |

## Service

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<b>Program Committee</b>	DiGRA 2018 "Users" Track, DiGRA 2019 "Making Sense of Play and Players" Track DiGRA 2020 "Game History and Cultural Context" Track
<b>LBW/WiP Assoc. Chair</b>	CHI Play 2019
<b>Student Volunteer</b>	CHI Play 2016, DiGRA 2017
<b>Paper Reviewer</b>	DiGRA/FDG 2016, Creativity & Cognition 2017, CHI 2018 Meaningful Play 2018, IDC 2019, CHI 2020, CSCW 2020, DIS 2020, IDC 2020
<b>LBW/WiP/Poster Reviewer</b>	MobileHCI 2017, CHI Play 2017, CHI 2019, Creativity & Cognition 2019, CHI 2020 alt.CHI 2020
<b>Student Game Reviewer</b>	CHI 2016, CHI 2020
<b>Faculty Hiring Committee</b>	CMU HCII 2019
<b>Lab Historian</b>	OH!Lab 2015-2020, eHeart Lab 2015-2020
<b>PhD Open House Volunteer</b>	CMU HCII 2016, 2017, 2018
<b>Selection Committee</b>	Carnegie Science Awards 2018, 2019, 2020
<b>Logistics Committee</b>	Pittsburgh Racial Justice Summit 2019 ( <i>Signs, Logistics, Accessibility Co-Chair</i> ), Pittsburgh Racial Justice Summit 2020 ( <i>Evaluations Chair</i> )
<b>Alumni Volunteer Interviewer</b>	Stanford University Undergraduate Admissions 2019, 2020

## Skills

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

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

**Game Design** Transformational, Educational, Tabletop, Interactive Narrative Games, Playtesting, Participatory Design with Children

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

## Media

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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 **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

Updated: May 10, 2020