

# Alexandra To

ASSISTANT PROFESSOR · NORTHEASTERN UNIVERSITY

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🔗 Google Scholar Profile

## Academic Appointment

### Northeastern University

ASSISTANT PROFESSOR

Boston, MA

Begin August 2020

Jointly appointed in the Art + Design department in the College of Arts, Media, & Design and the Khoury College of Computer Science

## Education

### Carnegie Mellon University

PHD IN HUMAN-COMPUTER INTERACTION

Pittsburgh, PA

Aug. 2015 - Jul. 2020

- Human Computer Interaction Institute | School of Computer Science
- Thesis: “*Empowering Uncertainty Resolution for Marginalized Populations through Social Technology*”
- **Advisors:** Jessica Hammer and Geoff Kaufman

### Stanford University

B.S. IN SYMBOLIC SYSTEMS, HCI CONCENTRATION, MINOR IN ASIAN AMERICAN STUDIES

Stanford, CA

Sept. 2010 - Jun. 2015

M.S. IN SYMBOLIC SYSTEMS

- Symbolic Systems Program | School of Humanities and Sciences
- Honors Thesis: “*Foundry: Managing Teams of Experts Online*”
- Masters Thesis: “*Experts On Demand: Enabling Flash Organizations with Rapid Onboarding*”
- **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 Proc. 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 Proc. 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 Scare: 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) \_\_\_\_\_

### 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.

### 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

CARNEGIE MELLON UNIVERSITY HCII

Pittsburgh, PA

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)

CARNEGIE MELLON UNIVERSITY HCII

Pittsburgh, PA

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

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, 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 UNIVERSITY ASIAN AMERICAN STUDIES

Stanford, CA

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 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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### TA, 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

### TA, Programming Usable Interfaces (05-430/05630)

HUMAN-COMPUTER INTERACTION INSTITUTE AT CARNEGIE MELLON UNIVERSITY

2017

Instructor of Record: Jason Hong

### TA, Navigating Race and Identity in America (85-357)

PSYCHOLOGY DEPARTMENT AT CARNEGIE MELLON UNIVERSITY

2017

Instructor of Record: Kody Manke

### TA, Minds and Machines (SymSys 100)

SYMBOLIC SYSTEMS PROGRAM AT STANFORD UNIVERSITY

2014

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

## CA, Human-Computer Interaction Seminar (CS 547)

COMPUTER SCIENCE DEPARTMENT AT STANFORD UNIVERSITY

2014

Instructor of Record: Michael Bernstein

## 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 brainstorming 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.

## Selected Invited Presentations

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STANFORD UNIVERSITY HCI GROUP LUNCH SEMINAR

07/2020

"Critical Race Theory for HCI" - Co-Presented with Ihudiya Finda Ogbonnaya-Ogburu, Angela Smith

CARNEGIE MELLON HCII AND ROBOTICS INSTITUTE SPECIAL SEMINAR

07/2020

"Critical Race Theory for HCI" - Co-Presented with Ihudiya Finda Ogbonnaya-Ogburu, Angela Smith

UNIVERSITY OF WASHINGTON DUB SEMINAR

07/2020

"Critical Race Theory for HCI" - Co-Presented with Ihudiya Finda Ogbonnaya-Ogburu, Angela Smith

NORTHEASTERN UNIVERSITY - KHOURY COLLEGE OF COMPUTER SCIENCE

06/2020

"Designing to Empower Marginalized Communities through Social Technology"

MICROSOFT RESEARCH HCI SEMINAR

05/2020

"Critical Race Theory for HCI" - Co-Presented with Ihudiya Finda Ogbonnaya-Ogburu, Angela Smith

INNOVATION WITH IMPACT, CARNEGIE MELLON UNIVERSITY

04/2020

"Fictional, Interactive Narrative as a Foundation to Talk about Racism"

WOMEN IN DATA SCIENCE (WIDS) @ CMU

03/2020

Virtual Panel

NORTHEASTERN UNIVERSITY - COLLEGE OF ARTS, MEDIA & DESIGN

02/2020

"Designing to Empower Marginalized Communities through Social Technology"

CMU HCII/PHILIPS HEALTH FUNDER MEETING

10/2019

"SleepyGames Research Presentation" - Co-Presented with Adela Kapuścińska

MOSAIC ANNUAL CONFERENCE ON INTERSECTIONALITY, CARNEGIE MELLON UNIVERSITY

10/2019

"Incorporating Intersectionality in Your Research" - Co-Facilitated with Judeth Oden Choi

INNOVATION WITH IMPACT, CARNEGIE MELLON UNIVERSITY “ <i>They Just Don’t Get It</i> ”: Support Seeking for Racist Experiences”	04/2019
STANFORD UNIVERSITY HCI GROUP LUNCH SEMINAR “ <i>Supporting Curiosity-Driven Question-Asking with a Transformational Game</i> ”	07/2018
IN MEDIA RES, THEME WEEK: TRANSFORMATIVE GAMES “ <i>Tandem Transformational Game Design</i> ”	04/2017
INNOVATION WITH IMPACT, CARNEGIE MELLON UNIVERSITY “ <i>Treehouse Dreams: A Game-Based Method for Eliciting Interview Data from Children</i> ”	04/2017

## 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, Meaningful Play 2018 CHI 2018, IDC 2019, CHI 2020, CSCW 2020, DIS 2020, IDC 2020, CHI Play 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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<b>Research Methods</b>	Interviewing, Grounded Theory, Controlled Lab Experiments, Think Aloud Study Protocols, Studies with Children, Ethnomethodology, Surveys, Research Through Design, Co-Design
<b>User-Centered Design</b>	Paper Prototyping, Rapid Iterative Prototyping, UI Wireframing, Heuristic Evaluation, Storyboards, Cognitive Task Analysis, Transformational Game Design, Competitive Analysis, Contextual Inquiry
<b>Game Design</b>	Transformational, Educational, Tabletop, Interactive Narrative Games (e.g., Inform, Twine), Playtesting, Participatory Design with Children
<b>Programming</b>	Javascript, HTML5, CSS, jQuery, C/C++

## Selected Media

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06/20	<b>UMSI News</b> , U-M research reveals racism challenges in human-computer interaction
01/2019	<b>CMU News</b> , Alumnus, Students Join Pittsburgh Community at Racial Justice Summit
07/2017	<b>New York Times</b> , The Pop-Up Employer: Build a Team, Do the Job, Say Goodbye
11/2016	<b>HCII News &amp; Events</b> , HCII & ETC Student Game Brings Home Best Student Game and People’s Choice Award
08/2014	<b>Stanford News</b> , Stanford’s Symbolic Systems program bridges the gap b/t humanity and technology
08/2014	<b>Stanford News</b> , Stanford team looks to take crowdsourcing to a whole new level

Updated: July 23, 2020