

Haoqi Zhang

CONTACT INFORMATION	Northwestern University Delta Lab Design, Technology, & Research Computer Science & Segal Design Evanston, IL 60208	(917) 445-2626 http://delta.northwestern.edu http://dtr.northwestern.edu http://haoqizhang.com hq@northwestern.edu
RESEARCH INTERESTS	My research on <i>Computational Ecosystems</i> advances integrative approaches to designing, building, and studying socio-technical systems that solve complex human problems and advance core human values. My work is largely multidisciplinary, and bridges across Computer Science, Design, Learning Science, Psychology, and Philosophy.	
APPOINTMENTS	Northwestern University , Evanston, IL <i>Associate Professor, Computer Science and Segal Design Institute</i>	5/2019 to present
	Northwestern University , Evanston, IL <i>Allen K. and Johnnie Cordell Breed Junior Professor of Design</i>	9/2015 to 8/2018
	Northwestern University , Evanston, IL <i>Assistant Professor, Computer Science and Segal Design Institute</i>	9/2013 to 5/2019
	MIT CSAIL , Cambridge, MA <i>Postdoctoral Associate, User Interface Design Group</i>	9/2012 to 7/2013
	Microsoft Research , Redmond, WA <i>Research Intern, Adaptive Systems and Interaction Group</i>	5/2010 to 8/2010
EDUCATION	Harvard University , Cambridge, MA Ph.D. in Computer Science, September 2012 Thesis: <i>Computational Environment Design</i> Advisor: David C. Parkes	
	Harvard College , Cambridge, MA A.B. in Computer Science and Economics with highest honors, June 2007 Thesis: <i>Policy Teaching through Reward Function Learning</i>	
HONORS AND AWARDS	Office of Undergraduate Research Faculty Honor Roll, 2022. Nomination for CRA-E Undergraduate Research Faculty Mentoring Award, 2020, 2023. Murphy Award for Advancing Undergraduate Engineering, 2014-17, 2018-21, 2022-24. Office of the Provost Award for Digital Learning, 2016-2017. Searle Teaching Fellow, 2014	
	UIST Best Paper Award Honorable Mention, 2018. CHI Best Paper Award Honorable Mention, 2012, 2014. HCOMP Notable Paper Award, 2013.	
	NSF Graduate Research Fellowship, 2011-2012. NDSEG Fellowship, 2008-2011. Derek C. Bok Award for Excellence in Teaching of Undergraduates at Harvard, 2009. Thomas Temple Hoopes Prize for senior thesis at Harvard, 2007.	

- DOCUMENTARY
FILM Sergio Salgado, Sarah Hanson, and Haoqi Zhang. Forward: A Story About Learning and Growth. <http://forward.movie>, 2022.
- DTR ANNUAL
LETTERS 2023 Annual Letter: a different approach | an independent researcher | let go, and let fall. | bad. should. enough. | the limits of my ability as a mentor and coach | teaching models for thinking | lessons from unpleasant encounters | junior faculty support group
- 2022 Annual Letter: thawing out of the pandemic | responsibility; responsive | groundhog day | sharing: putting it out there | what students get out of DTR | how we coach and teach design research | sustainability
- CONFERENCE AND
JOURNAL PAPERS Haoqi Zhang. Searching for the Non-Consequential: Dialectical Activities in HCI and the Limits of Computers. *To appear in the Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI 2024)*, 2024.
- Yinmiao Li, Haoqi Zhang, and Eleanor O'Rourke. The Undervalued Disciplinary and Emotional Support Provided By Teaching Assistants in Introductory Computer Science Courses. *To appear in the International Conference of the Learning Sciences (ICLS)*, 2024.
- Kapil Garg, Darren Gergle, and Haoqi Zhang. Orchestration Scripts: A System for Encoding an Organization's Ways of Working to Support Situated Work. *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI 2023)*, 2023.
- Kapil Garg, Darren Gergle, and Haoqi Zhang. Understanding the Practices and Challenges of Networked Orchestration in Research Communities of Practice. *Accepted to the 25th ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW 2022)*, 2022.
- Ryan Louie, Darren Gergle, and Haoqi Zhang. Affinder: Expressing Concepts of Situations that Afford Activities using Context-Detectors. *Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (CHI 2022)*, 2022.
- Ryan Louie, Kapil Garg, Jennie Werner, Allison Sun, Darren Gergle, and Haoqi Zhang. Opportunistic Collective Experiences: Identifying Shared Situations and Structuring Shared Activities at Distance. *Proceedings of the 23rd ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '20)*, 2020.
- Kapil Garg, Yongsung Kim, Darren Gergle, and Haoqi Zhang. 4X: A Hybrid Approach for Scaffolding Data Collection and Interest in Low-Effort Participatory Sensing. *Proceedings of the 22nd ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '19)*, 2019.
- Josh Hibschan, Darren Gergle, Eleanor O'Rourke, and Haoqi Zhang. Isopleth: Supporting Sensemaking in Professional Web Applications to Create Readily Available Learning Experiences. *ACM Transactions on Computer-Human Interaction (TOCHI)*, 2019.
- Sarah Lim, Josh Hibschan, Haoqi Zhang, and Eleanor O'Rourke. Ply: A Visual Web Inspector for Learning from Professional Webpages. In *Proceedings of the 31st Symposium on User Interface Software and Technology (UIST '18)*, 2018. Best Paper Award Honorable Mention.

Yongsung Kim, Darren Gergle, and Haoqi Zhang. Hit-or-Wait: Coordinating Opportunistic Low-effort Contributions to Achieve Global Outcomes in On-the-go Crowdsourcing. In *Proceedings of the ACM CHI Conference on Human Factors and Computing Systems (CHI '2018)*, 2018.

Haoqi Zhang, Matthew W. Easterday, Elizabeth Gerber, Daniel Rees Lewis, and Leesha Maliakal. Agile Research Studios: Orchestrating Communities of Practice to Advance Research Training at Scale. In *Proceedings of the 20th ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '17)*, 2017.

Yongsung Kim, Aaron Shaw, Haoqi Zhang, and Elizabeth Gerber. Understanding Trust amid Delays in Crowdfunding. In *Proceedings of the 20th ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '17)*, 2017.

Yongsung Kim, Emily Harburg, Shana Azria, Aaron Shaw, Elizabeth Gerber, Darren Gergle, and Haoqi Zhang. Studying the Effects of Task Notification Policies on Participation and Outcomes in On-the-go Crowdsourcing. In *Proceedings of the AAAI Conference on Human Computation and Crowdsourcing (HCOMP '16)*, 2016.

Katherine Lin, Henry Spindell, Scott Cambo, Yongsung Kim, and Haoqi Zhang. Habit-sourcing: Sensing the Environment through Immersive, Habit-Building Experiences. In *Proceedings of the 29th Symposium on User Interface Software and Technology (UIST '16)*, 2016.

Joshua Hibsichman and Haoqi Zhang. Telescope: Fine-Tuned Discovery of Interactive Web UI Feature Implementation. In *Proceedings of the 29th Symposium on User Interface Software and Technology (UIST '16)*, 2016.

Josh Hibsichman and Haoqi Zhang. Unravel: Rapid Web Application Reverse Engineering via Interaction Recording, Source Tracing, and Library Detection. In *Proceedings of the 28th Symposium on User Interface Software and Technology (UIST '15)*, 2015.

Kevin Chen and Haoqi Zhang. Remote Paper Prototype Testing. In *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '15)*, 2015.

Anant Bhardwaj, Juho Kim, Steven P. Dow, David Karger, Sam Madden, Robert C. Miller, Haoqi Zhang. Attendee-sourcing: Exploring the Design Space of Community-Informed Conference Scheduling. In *Proceedings of the AAAI Conference on Human Computation and Crowdsourcing (HCOMP '14)*, 2014.

Haoqi Zhang, Andrés Monroy-Hernández, Aaron Shaw, Sean Munson, Elizabeth Gerber, Benjamin Mako Hill, Peter Kinnaird, Shelly Diane Farnham, and Patrick Minder. WeDo: End-To-End Computer Supported Collective Action. *Proceedings of the Eighth International AAAI Conference on Weblogs and Social Media (ICWSM '14)*, 2014.

Aaron Shaw, Haoqi Zhang, Andrés Monroy-Hernández, Sean Munson, Benjamin Mako Hill, Elizabeth Gerber, Peter Kinnaird, and Patrick Minder. Computer Supported Collective Action. *interactions*, 21, 2, March 2014.

Lydia B. Chilton, Juho Kim, Paul André, Felicia Cordeiro, James Landay, Dan Weld, Steven P. Dow, Robert C. Miller, and Haoqi Zhang. Frenzy: Collaborative Data Organization for Creating Conference Sessions. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '14)*, pp. 1255–1264, 2014. Best Paper

Award Honorable Mention.

Robert C. Miller, Haoqi Zhang, Eric Gilbert, and Elizabeth Gerber. Pair Research: Matching People for Collaboration, Learning, and Productivity. *Proceedings of the 17th ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '14)*, 2014.

Paul André, Haoqi Zhang, Juho Kim, Lydia B. Chilton, Steven P. Dow, and Robert C. Miller. Community clustering: Leveraging an academic crowd to form coherent conference sessions. In *Proceedings of the 1st AAAI Conference on Human Computation and Crowdsourcing (HCOMP '13)*, 2013. Notable Paper Award.

Haoqi Zhang, Eric Horvitz, and David C. Parkes. Automated Workflow Synthesis. In *Proceedings of the 27th AAAI Conference on Artificial Intelligence (AAAI '13)*, 2013.

Juho Kim, Haoqi Zhang, Paul André, Lydia Chilton, Wendy MacKay, Michel Beaudouin-Lafon, Robert C. Miller, Steven P. Dow. Cobi: A Community-Informed Conference Scheduling Tool. In *Proceedings of the 26th Symposium on User Interface Software and Technology (UIST '13)*, 2013.

Haoqi Zhang, Edith Law, Robert C. Miller, Krzysztof Z. Gajos, David C. Parkes, and Eric Horvitz. Human Computation Tasks with Global Constraints. In *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI '12)*, pp. 217–226, 2012. Best Paper Award Honorable Mention.

Haoqi Zhang, Eric Horvitz, Yiling Chen, and David C. Parkes. Task Routing for Prediction Tasks. To appear in *Proceedings of the 11th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS '12)*, 2012.

Ian A. Kash, John K. Lai, Haoqi Zhang, and Aviv Zohar. Economics of BitTorrent Communities. In *Proceedings of the 21st International Conference on World Wide Web (WWW '12)*, 2012.

Jon Noronha, Eric Hysen, Haoqi Zhang, and Krzysztof Z. Gajos. PlateMate: Crowdsourcing Nutrition Analysis from Food Photographs. In *Proceedings of the 24th Symposium on User Interface Software and Technology (UIST '11)*, pp. 1–11, 2011.

Edith Law and Haoqi Zhang. Towards Large-Scale Collaborative Planning: Answering High-Level Search Queries Using Human Computation. In *Proceedings of the 25th AAAI Conference on Artificial Intelligence (AAAI '11)*, pp. 1210–1215, 2011.

Yiling Chen, Jerry Kung, David C. Parkes, Ariel Procaccia, and Haoqi Zhang. Incentive Design for Adaptive Agents. In *Proceedings of the 10th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS '11)*, pp. 627–634, 2011.

Pavithra Harsha, Cynthia Barnhart, David C. Parkes, and Haoqi Zhang. Strong Activity Rules for Iterative Combinatorial Auctions. In *Computers & Operations Research*, vol. 37, no. 7, pp. 1271–1284, 2010.

Haoqi Zhang, Yiling Chen, and David C. Parkes. A General Approach to Environment Design with One Agent. In *Proceedings of the 21st International Joint Conference on Artificial Intelligence (IJCAI '09)*, pp. 2002–2008, 2009.

Haoqi Zhang, David C. Parkes, and Yiling Chen. Policy Teaching Through Reward

Function Learning. In *Proceedings of the 10th ACM Conference on Electronic Commerce (EC '09)*, pp. 295–304, 2009.

Haoqi Zhang and David C. Parkes. Value-based Policy Teaching with Active Indirect Elicitation. In *Proceedings of the 23rd AAAI Conference on Artificial Intelligence (AAAI '08)*, pp. 208–214, 2008. Oral presentation and poster paper.

Harrison Kwik, Haoqi Zhang, and Eleanor O'Rourke. How Do Students Seek Help and How Do TAs Respond? Investigating Help-Seeking Strategies in CS1 Office Hours. *SIGCSE Technical Symposium*, 2022.

Molly Pribble, Neha Sharma, Haoqi Zhang, and Leesha Maliakal. MindYoga: Scaffolding the Metacognitive Reflection Process within Learning Ecosystems. *CHI Late Breaking Work*, 2022.

Nina Cong, Kevin Cheng, Haoqi Zhang, and Ryan Louie. Collective Narrative: Scaffolded Community Storytelling through Context-Awareness. *CSCW Late Breaking Work*, 2021.

Yongsung Kim, Emily Harburg, Shana Azria, Elizabeth Gerber, Darren Gergle, Haoqi Zhang. Enabling Physical Crowdsourcing On-the-go with Context-Sensitive Notifications. *HCOMP Work-in-Progress*, 2015.

Emily Harburg, Yongsung Kim, Elizabeth Gerber, and Haoqi Zhang. CrowdFound: A Mobile Crowdsourcing System to Find Lost Items On-the-Go. *CHI Work-in-Progress*, 2015.

Haoqi Zhang, Paul André, Lydia Chilton, Juho Kim, Steven P. Dow, Robert C. Miller, Wendy MacKay, and Michel Beaudouin-Lafon. Cobi: Communitysourcing Large-Scale Conference Scheduling. Demo at *CHI Interactivity (CHI '13)*, 2013.

Haoqi Zhang, John Lai, and Moritz Baecher. Hallucination: a Mixed-Initiative Approach for Efficient Document Reconstruction. In *Proceedings of the AAAI workshop on Human Computation (HCOMP '12)*, 2012.

Andrew Mao, Yiling Chen, Krzysztof Gajos, David Parkes, Ariel Procaccia, and Haoqi Zhang. TurkServer: Enabling Synchronous and Longitudinal Online Experiments. In *Proceedings of the AAAI workshop on Human Computation (HCOMP '12)*, 2012.

Haoqi Zhang, Eric Horvitz, Robert C. Miller, and David C. Parkes. Crowdsourcing General Computation. In the *CHI workshop on crowdsourcing and human computation*, 2011. Also available as Microsoft Research Technical Report MSR-TR-2011-6.

Beatrice Liem, Haoqi Zhang, and Yiling Chen. An Iterative Dual Pathway Structure for Speech-to-Text Transcription. In *Proceedings of the AAAI workshop on Human Computation (HCOMP '11)*, 2011.

Ian A. Kash, John K. Lai, Haoqi Zhang, and Aviv Zohar. Economics of BitTorrent Communities. In *Proceedings of the 6th Workshop on the Economics of Networks, Systems, and Computation (NetEcon '11)*, 2011.

Haoqi Zhang, Eric Horvitz, Yiling Chen, and David C. Parkes. Task Routing for Prediction Tasks. In the *ACM EC Workshop on social computing and user-generated content*, 2011.

Eric Huang, Haoqi Zhang, David C. Parkes, Krzysztof Z. Gajos, and Yiling Chen. Toward Automatic Task Design: A Progress Report. In *Proceedings of the KDD workshop on Human Computation (HCOMP '10)*, 2010.

Haoqi Zhang and David C. Parkes. Enabling Environment Design via Active Indirect Elicitation. In *the 4th Multidisciplinary Workshop on Advances in Preference Handling (MPREF '08)*, 2008.

PHD THESIS Haoqi Zhang. Computational Environment Design. Ph.D. dissertation, *Harvard University*, 2012.

UNDERGRADUATE THESIS Haoqi Zhang. Policy Teaching through Reward Function Learning. Undergraduate thesis in Computer Science and Economics, *Harvard University*, 2007. Thomas Temple Hoopes Prize Winning Thesis.

INVITED TALKS & SCREENINGS Forward: A Story about Learning and Growth
UW Dub Summer REU group, July 2022.
Film Release Party at Northwestern Garage, June 2022.
Early Career HCI + ARS, April and May 2022.
Northwestern Women-in-Computing and DISC, Nov 2021.
Northwestern Murphy Society, Oct 2021.
Northwestern Undergraduate Research and Arts Expo, May 2021.
Northwestern CS, Apr 2021.
Stanford HCI, Nov 2020.
San Francisco State, Workshop and Q&A, Oct 2020.
UCSD Design@Large, San Diego, CA, Feb 2020.

Computational Ecosystems: Tech-enabled Communities to Advance Human Values at Scale.
UChicago People & Tech Seminar, Chicago, IL, May 2023.
Northwestern Institute on Complex Systems, Evanston, IL, April 2022.
Berkeley BiD Seminar, Berkeley, CA, Jan 2018.
Michigan School of Information Seminar, Ann Arbor, MI, Jan 2018.
Harvard EconCS/HCI Seminar, Cambridge, MA, Nov 2017.
MIT HCI Seminar, Cambridge, MA, Nov 2017.
CMU HCII Seminar, Pittsburgh, CA, Nov 2017.
Stanford Seminar on People, Computers and Design, Stanford, CA, Oct 2017.
Microsoft Research Seminar, Seattle, WA, Oct 2017.
UW Dub Seminar, Seattle, WA, Oct 2017.
UCSD Design@Large, San Diego, CA, Oct 2017.

Agile Research Studios: Orchestrating Communities of Practice to Advance Research Training.
Cyberlearning 2019, Washington, DC, October 2019.
Berkeley WISE Seminar, Berkeley, CA, Jan 2018.
Northwestern Learning, Teaching, and Assessment Forum, Evanston, IL, Nov 2016.

Pair Research: Matching People for Collaboration, Learning, and Productivity.
Northwestern TEACHx, Evanston, IL, May 2017.

Design, Technology, and Research.
Northwestern Engineering Advisory Board Meeting, Evanston, IL, Oct 2019.
Northwestern Mobile Meetup, Evanston, IL, Feb 2015.

Crowds, Communities, and Mixed-Initiative Systems.
Microsoft Faculty Summit, Bellevue, WA, July 2014.
Northwestern Institute on Complex Systems, Evanston, IL, May 2014.
AAAS Annual Meeting, Chicago, IL, Feb 2014.
CMU Human Computer Interaction Institute, Pittsburg, PA, October 2013.

FUNDING

Haoqi Zhang. Fostering Self-Direction in Human Living. *Spencer Foundation*, 2025-2029, *under review*, \$499,292.

Haoqi Zhang and Jennifer Tackett. Empowering the Next Generation of Global Women Leaders in Universities around the World. *Buffett Institute of Global Affairs*, 2023-2025, \$300,000.

Haoqi Zhang and Darren Gergle. Human-AI Tools for Expressing Human Situations and Contexts to Machines. *Center for Advancing Safety of Machine Intelligence (CASMI)*, 2023-2024, \$274,986.

Haoqi Zhang. Self-Direction in Human Living. *Office of the Provost COVID-19 Research Recovery Grants*, 2023-2024, \$7,338.

Haoqi Zhang. New Programs and Technologies for Undergraduates in Design, Technology, and Research (DTR). *Northwestern's Murphy Society Grant*, 2022–2024, \$22,000.

Nell O'Rourke and Haoqi Zhang. Context-Aware Metacognitive Practice: Instrumenting Classroom Ecosystems to Help Introductory Computer Science Students Develop Effective Learning Strategies. *NSF Cyberlearning*, 2020–2025, \$748,957.

Haoqi Zhang and Darren Gergle. Computational Tools for Expressing Conceptually Rich Situations to Machines. *Google Faculty Research Award*, 2019–2024, \$69,313.

Haoqi Zhang. Undergraduate Programs for Design and Computing Research. *Northwestern's Murphy Society Grant*, 2018–2021, \$55,000.

Haoqi Zhang and Nell O'Rourke. Readily Available Learning Experiences: Turning the Entire Web into Progressive Examples to Bridge Conceptual Knowledge Gaps for Novice Web Developers. *NSF Cyberlearning*, 2017-2022, \$549,815.

Haoqi Zhang, Matt Easterday, and Liz Gerber. Agile Research Studios: Scaling Cognitive Apprenticeship to Advance Undergraduate and Graduate Research Training in STEM. *NSF Cyberlearning*, 2016–2021, \$549,944.

Haoqi Zhang and Darren Gergle. Coordination of Opportunistic Actions to Produce Globally Effective Behaviors for Physical Crowdsourcing. *NSF Cyber-Human Systems*, 2016–2021, \$496,380.

Haoqi Zhang and Liz Gerber. Pair Research: Matching People for Collaboration, Learning, and Productivity. *Northwestern's Office of the Provost Award for Digital Learning*, 2016–2017, \$20,000.

Haoqi Zhang. HCOMP Doctoral Consortium. *NSF IIS*, 2016-2017, \$23,772.

Haoqi Zhang. Remote Paper Prototype Testing. *NSF CISE Research Initiation Initiative*, 2015–2017, \$147,536.

Haoqi Zhang. Design, Technology, and Research. *Northwestern's Murphy Society Grant*, 2014–2017, \$100,000.

Haoqi Zhang, Aaron Shaw, and Elizabeth Gerber. Sharing Human-powered Mobility to Improve Societal Efficacy and Efficiency. *Microsoft Fuse Labs Research Award*, 2014–2015, \$25,000.

TEACHING

CS-DSGN 315/415: Design, Technology, and Research 2014–now (quarterly)
Instructor & Program Director at Northwestern

CS 329: HCI Studio 2021, 2023, 2024
Instructor at Northwestern

CS 330: Human Computer Interaction 2021, 2014
Instructor at Northwestern

CS 101: Intro to Computer Science for Everyone 2013, 2014
Instructor at Northwestern

CS 397/497: Social & Crowd Computing 2014, 2015, 2017, 2018
Instructor at Northwestern

DSGN 401-2: Interaction Design 2015, 2016, 2017, 2018, 2019
Instructor at Northwestern

6.831: User Interface Design and Implementation 2013
Instructor at MIT

Derek Bok Center for Teaching and Learning 2009–2011
Teaching Consultant at Harvard

PHD ADVISING

Kapil Garg Fall 2018 to present
- Advise research on Networked Orchestration Technologies (NOT).

Gobi Dasu Fall 2018 to present
- Advise research on Readily Available Learning Experiences (RALE).

Ryan Louie Fall 2017 to Summer 2023.
- Advise research on Opportunistic Collective Experiences (OCE).
- Dissertation: *Human-AI Interface Layers: Enhancing Communication of Intent for AI-Assisted Creative Pursuits and Social Experiences*.
- Placement: Postdoctoral Researcher at Stanford University

Leesha Maliakal Fall 2016 to Summer 2022.
- Advise research on Agile Research Studios (ARS).
- Dissertation: *Agile Research Studios: Learning Ecosystems to Scale Effective Research Training*
- Placement: Assistant Professor at Northeastern Illinois University

Yongsung Kim Fall 2014 to September 2020
- Advise research on On-the-Go Crowdsourcing (OTG).
- Dissertation: *Designing Flexible Coordination Systems to Advance Individual and Collective Goals in Physical Crowdsourcing*
- Northwestern Department of Communication Studies Graduate Dissertation Award.

- Placement: Postdoctoral Researcher at Carnegie Mellon University

Josh Hibschan Fall 2014 to June 2017
- Advised research on Readily Available Learning Experiences (RALE).
- Dissertation: *Readily Available Learning Experiences in Production Code*
- Placement: Adjunct Professor at Taylor University.

Harrison Kwik Fall 2019 to Summer 2022.
- Advised research on Context-Aware Metacognitive Practice (CAMP).

PHD RESEARCH
ADVISING Maalvika Bhat Winter 2024 to present
- Advise research on “Understanding the Gap between Creativity Support Tools and Supporting Dialectical Engagement in Art-Making.”

Yinmiao Li Fall 2023 to present
- Advise research on behaviors, metacognition, and emotions in CS1 students.

Seva Suschenskiy Spring 2023
- Advised research on collective experiences for relationship development.

Emily Harburg Summer 2014 to Spring 2015
- Advised research on crowdsourced lost and found for TSB rotation.

Scott Cambo Spring 2015 to Summer 2015
- Advised research on on-the-go citizen science for TSB rotation.

Julian Vicens (visiting student) Summer 2016
- Advised summer research on “Patterns: Teaching the Scientific Method through a Citizen Science application”

UNDERGRADUATE
AND MASTERS
RESEARCH
ADVISING Human-AI Tools (HAT)
Ryan Chu, Gustavo Mercier, Mame Coumba Ka, Nuremir Babanov, and Alex Feng
Spring 2023 to present
- Advise research on “Human-AI tools for concept development and expression.”

Edward Chen, Jiayi Zheng, Yiran Mo, and Suhui Chen Spring 2023 to present
- Advise research on “Human-AI tools for accounting for differences across contexts.”

Agile Research Studios (ARS)

Isaac Miller, Molly Pribble, Neha Sharma, Olivia Gallager, Zev Stravitz, Victoria Cabales, Maggie Lou, and Nneoma Oradiegwu Fall 2017 to Spring 2022

- Advise research on “Tools and Processes for Supporting Meta-cognitive Reflection.”
- Work led to CHI 2019 Student Research Competition Paper on “Muse: Scaffolding Metacognitive Reflection in Design-Based Research.”
- Work led to CHI 2022 Late Breaking Work on “MindYoga: Scaffolding the Metacognitive Reflection Process within Learning Ecosystems.”

Ariella Silver, Aimee Nicole van den berg, Shankar Salwan and Sehmon Burnam Spring 2017 to Fall 2021
- Advise research on “Understanding and Promoting Collective Skill Development and Growth in Learning Communities.”

Bomani McClendon and Sameer Srivastava Winter 2016 to Spring 2017

- Advise research on “Polaris: Scaffolding the Creation & Evaluation of Design Arguments for Undergraduate Researchers”

Opportunistic Collective Experiences (OCE)

Oscar Dong, Pablo Gupta, Richard Lam, Parveen Dhanoa, Jenny Chang, Nina Cong, Kevin Cheng, David Lee, Gabriel Caniglia, Sanfeng Wang, Gino Wang, and Eunice Lee
Spring 2017 to present

- Advise research on “Collective Narratives: An API for Opportunistic Storytelling and Immersive Interactive Narratives.”
- Work led to CHI 2020 Late Breaking Work on “Cast: A Context-Aware Collaborative Storytelling Platform.”
- Work led to CSCW 2021 Late Breaking Work on “Collective Narrative: Scaffolding Community Storytelling through Context-Awareness.”

Victoria Tran, Cindy Hu, Yvan Chu, Grace Wainaina, Mason Lin, Zachary Cmiel, David Lee, Amy Yang, Mary Truong, and Navin Gopaul Winter 2019 to Winter 2023

- Advise research on “Relationship Development Through Opportunistic Collective Experiences.”
- Work led to CHI 2022 Student Research Competition Paper (2nd place) on ”Self-Disclosure for Early Relationship Development through Situated Prompts in Opportunistic Collective Experiences.”

Ryan Jeon, Matthew Wang, Allison Sun and Jennie Werner Fall 2016 to Spring 2018

- Advise research on “Cerebro: Programming Opportunistic Interactions Across People”
- Work led to presentation at ACM CHI Student Research Competition (2nd place), CHI 2018
- Work led to ACM CSCW 2020 paper ”Opportunistic Collective Experiences: Identifying Shared Situations and Structuring Shared Activities at Distance.”

Kevin Chen, Ryan Madden, and Shannon Nachreiner Fall 2015 to Spring 2016

- Advise research on “Collective Experience API.”

Readily Available Learning Experiences (RALE)

Mieraf Mulat, Lev Rosenberg, Alex Andreiu, Roxy Wilcox, Fardeem Munir, Ava Robinson, Salome Kariuki, Daniel Zhu and Suzy Lee Winter 2018 to Spring 2023

- Advise research on “Knowledge Maps: An Interactive Tool for Learners to Curate Similar and Contrasting Professional Code Examples.”
- Work led to ACM CHI 2020 Student Research Competition extended abstract on ”Knowledge Maps: Building Conceptual CSS Knowledge Through Comparison.”
- Work led to ACM CHI 2022 Student Research Competition extended abstract on ”Knowledge Maps for Building Conceptual and Transferable CSS Knowledge, ” 1st place.

Yabi Ayele, Jonathan Liu, Natalie Brewster, Maxine Whitely, David Latimore, and Aaron Leon Spring 2017 to Fall 2022

- Advise research on “Scaffolded Exercises on Professional Code Examples.”

Sarah Lim Fall 2016 to Spring 2018

- Advise research on “Ply: A Visual Web Inspector for Learning from Complex Professional Examples.”
- Work led to presentation at ACM CHI Student Research Competition (1st place),

CHI 2017

- Work led to “Ply: A Visual Web Inspector for Learning from Complex Professional Examples” at *UIST '18*. Best Paper Award Honorable Mention.
- Work resulted in Mozilla Firefox and Google Chrome shipping the Inactive CSS feature to help identify and surface implicit dependencies within Firefox and Chrome Developer Tools.

Jon Rovira

Winter 2016 to Spring 2016

- Advise research on “Intelligent Code Matching: Using Professional Examples to Help Novice Programmers Write Better Code.”

Sarah Lim and Christina Kim

Fall 2015 to Spring 2016

- Advise research on “Dynamic Tutorials: Using Professional Web Examples to Providing When-To-Do Intuitions.”

Nicole Zhu and Michael Wang

Fall 2015 to Spring 2016

- Advise research on “Reverse Engineer Professional Web Layouts for Authentic Learning.”

Philip House, Alex Hollenbeck, Ben Rothman, Sarah Lim Spring 2014 to Spring 2015

- Advised research on “Programming with a purpose.”
- Prototyped a web application that teaches Bootstrap components. Students contribute to generating CSS style guides while learning.

Networked Orchestration Technologies (NOT)

Ella Jones and Jonah Jodlowski

Winter 2019 to present

- Advise research on “Situated Reflection Systems: tools for supporting continual reflection and refinement of work practices.”

Grace Wang, Linh Ly, Rawan Mohamed, Chase Duvall

Fall 2022 to present

- Advise research on “Orchestration Scripting Environment: an authoring and coaching tool that encode and surface expert mentors’ models of how to diagnose root causes of a learning or work situation.”

Jason Friedman, Hang Yin, Kieran Bondy, Tommy McHugh, Vishal Giridhar, and Richard Huang Winter 2019 to Spring 2022

- Advise research on “Orchestration Scripts: Language and Tool for Encoding Mentoring Strategies.”

Sydney Smith and Charlotte Jones

Spring 2021 to Spring 2022

- Advise research on “Interactive SOAP notes for advancing mentoring and coaching.”

Ariella Silver, Caryl Henry, and Josh Klein

Winter 2019 to Spring 2020

- Advise research on “Regulation Devices: Orchestration Support for Meetings.”

Context-Aware Metacognitive Practice (CAMP)

Ella Cutler, Sara Bouftas, Dani Zhang, Amy Guo

Spring 2022 to present

- Advise research on “PATH: Process Adjustment by Tackling Hang-ups for CS1 students.”

Billy Kirchgessner, Archie Silverstein, Iphigenie Bera, Li Kang Tan present

Fall 2021 to present

- Advise research on “Q&A Buddy: A tool to support CS1 TAs to reflect on and deliberately practice strategies for help-giving.”

Lauren Bichelmeir, Justin Shi, Izzy Chun Fall 2021 to present
- Advise research on “Cardinal: A Personal Assistant for Helping CS1 Students Seek Help.”

On-The-Go Crowdsourcing (OTG)

Abizar Bagasrawala Fall 2019 to Spring 2020
- Advise research on “Relational Development through On-the-Go Crowdsourcing.”

Cooper Barth, Sam Naser and Maggie Lou Winter 2018 to Spring 2020
- Advise research on “The Last Mile Problem in On-the-Go Crowdsourcing: Challenges and Models.”

Olivia Barnett, Priya Shah, and Eli Cohen Fall 2017 to Fall 2018
- Advise research on “Dynamic Habitsourcing: Incorporating the 4X framework into Habit-Building Activities.”

Sasha Weiss Spring 2016 to Fall 2018
- Advise research on “Context-Aware Micro-reminders.”

Kapil Garg Winter 2016 to Spring 2018
- Advise research on “4X: Scaffolding Low-Effort Sensing.”
- Work led to CSCW 2019 paper “4X: A Hybrid Approach for Scaffolding Data Collection and Interest in Low-Effort Participatory Sensing.”

Aaron Loh Fall 2015
- Advise research on “Scaffolding Low-Effort Sensing.”

Shana Azria Fall 2015 to Winter 2016
- Advise research on “Libero: On-the-Go Package Delivery.”
- Work led to paper “Studying the Effects of Task Notification Policies on Participation and Outcomes in On-the-go Crowdsourcing” at *HCOMP '16*.

Zachary Allen Spring 2014 to Spring 2015
- Advised research on “Engage with a purpose: using mobile and wearable devices to promote exploration and discovery.”
- Work led to presentation at ACM CHI Student Research Competition (3rd place) on “GAZE: Using Mobile Devices to Promote Discovery and Data Collection.”, CHI 2015.

Stephen Chan, Nicole Zhu Winter 2013 to Spring 2015
- Advised research on “Low-effort crowdsourcing.”
- Co-developed iOS app *Tapshare*, which allows for low-effort, participatory community-sensing through simple gestures such as Knocks. Also led design and needfinding efforts.

Nicholas Scoliard Spring 2014
- Advised research on “Crowdsourcing desirable walking paths.”
- Developed iOS app for collecting and presenting desirable walking routes around campus.

Situational Crowdsourcing (SC)

Katherine Lin, Hyung-Soon Kim, and Alaina Kafkes Spring 2016 to Winter 2017
- Advise research on “Scaffolding Habitsourcing: Interactions and Methods.”

Katherine Lin and Henry Spindell Spring 2015 to Spring 2016
- Advise research on “Habitsourcing: Build personal habits with immersive experiences that collect environmental data.”
- Work led to paper “Habitsourcing: Sensing the Environment through Immersive, Habit-Building Experiences” at *UIST '16*.

Shawn Caeiro and Jennie Werner Fall 2015 to Spring 2016
- Advise research on “Physical Games with a Purpose.”

Leesha Maliakal, Scott Cambo, Christina Kim Winter 2015 to Spring 2016
- Advise research on “Crowdcheer: motivating marathon runners with timely cheers from the crowd.”
- Work led to presentation at Grace Hopper 2015 Student Research Competition (2nd place) on “CrowdCheer: Situational Crowdsourcing of Motivation for Runners”

Frank Avino and Henry Spindell Winter 2015 to Spring 2015
- Advised research on “RinkTalk: parentsourcing event detection at hockey games to support coaches and players.”

Jonah Ruffer Spring 2014
- Advised research on “Waitsourcing: using dead time for crowd work.”
- Developed ‘I spy’ games for waiting at bus stops. Games collect as a by-product a rich dataset of photos and census information.

Breaking Boundaries (BB)

Arya Bulusu and Jason Sewell Winter 2024 to present
- Advise research on “Generative AI-supported Prototyping”

Meg Grasse, Andrew Finke, and Alex Kaldjian Fall 2016 to Spring 2018
- Advise research on “McGonagall: Transfiguring Mixed-Fidelity Paper Prototypes to Remotely Test Mobile App Experiences.”
- Work led to CHI 2019 Student Research Competition Paper on “Lake: A Digital Wizard of Oz Prototyping Tool”

Katie George, Greg Kim, Nikhil Pai, and Alex Wang Fall 2015 to Winter 2017
- Advise research on “On-demand Action Plans for Personal Projects”

Kalina Silverman Fall 2014 to Spring 2015
- Advised research on “Big Talk: An online platform for deep, meaningful interactions between people.”

Kevin Chen Spring 2014
- Advised research on “Glass Prototyping: using Google Glass as a lens for testing mobile application prototypes.”
- Work led to paper “Remote Paper Prototype Testing” at *CHI '15*.

Corey Grief Spring 2014 to Winter 2015
- Advised research on “Secrets: information sharing through quests.”
- Developed and studied a system that supports people sharing tips/secrets with others who complete tasks to access information.

Prior to Northwestern

Joey Rafidi Fall 2012 to Spring 2013
- Co-advised research on “Crowdcierge: Real-time Trip Planning with the Crowd.”

- Work led to presentation at CHI Undergraduate Student Research Competition (tied for 2nd place), *CHI '13*

Andy Cooper Fall 2012

- Co-advised UAP research on “True Rank: Improving College Basketball Rankings.”
- Developed an user interface to visualize upsets in non-transitive rankings and allow users to contribute their opinions about the outcome.

Jon Noranha and Eric Hysen Spring 2011

- Co-advised research on “Crowdsourcing Nutritional Analysis.”
- Work led to paper “PlateMate: Crowdsourcing Nutrition Analysis from Food Photographs” in *UIST '11*.

Beatrice Liem Fall 2010 to Spring 2011

- Co-advised undergraduate thesis, “Designing a Transcription Game.”
- Work led to paper “An Iterative Dual Pathway Structure for Speech-to-Text Transcription” in *HCOMP '11*.

Jerry Kung Summer 2009 to Spring 2011

- Co-advised undergraduate thesis, “Incentive Design for Adaptive Agents.”
- Work led to paper “Incentive Design for Adaptive Agents” in *AAMAS '11*.

Eric Huang Summer 2009 to Spring 2010

- Co-advised undergraduate thesis, “Automatic Task Design on Amazon Mechanical Turk.”
- Work led to paper “Toward Automatic Task Design: A Progress Report” in *HCOMP '10*.

Dylan Lake Summer 2009

- Co-advised summer research on “k-Implementation with Unknown Rewards.”
- Work extended results from *EC '09* policy teaching paper to a multi-agent setting.

SELECT STUDENT HONORS DTR students, Undergraduate Research Grant, awarded 65 times between 2014–present.

Ryan Louie, Google PhD Fellowship in Human Computer Interaction, 2022.

Roxy Wilcox and Fardeem Munir, CHI Student Research Competition, 1st Place, 2022.

Cindy Hu, CHI Student Research Competition, 2nd Place, 2022.

Yongsung Kim, Northwestern Communication Studies Dissertation Award, 2021.

Harrison Kwik, NSF Graduate Research Fellowship Program recipient, 2021.

Harrison Kwik, Segal Design Cluster Fellowship, 2020.

Abizar Bagasrawala, KPCB Fellow, 2020.

Sarah Lim, UIST Best Paper Award Honorable Mention, 2018.

Josh Shi and Armaan Shah, CHI Student Research Competition, 1st Place, 2018.

Jennie Werner and Allison Sun, CHI Student Research Competition, 2nd Place, 2018.

Ryan Louie, Segal Design Cluster Fellowship, 2018.

Yongsung Kim, Microsoft Research Internship, 2017.

Leesha Maliakal, Segal Design Cluster Fellowship, 2017.

Sehmon Burnam, KPCB Fellow, 2017.

Eli Cohen, KPCB Fellow, 2017.

Sarah Lim, CHI Student Research Competition, 1st Place, 2017.

Josh Hibschman, Segal Design Cluster Fellowship, 2016.

Josh Hibschman, Google Research Internship, 2016.

Sarah Lim, Google Lime Scholarship, 2016.

Yongsung Kim, Segal Design Cluster Fellowship, 2015.

Leesha Maliakal, Grace Hopper Student Research Competition, 2nd Place, 2015.

Yongsung Kim, CHI Student Research Competition, 1st Place, 2015.

Zachary Allen, CHI Student Research Competition, 3rd Place, 2015.

Kalina Silverman, OZY Genius Award, 2015.

Kevin Chen, KPCB Fellow, 2015.

PROFESSIONAL
ACTIVITIES

Founder and Director, Design Technology and Research, 2014–present

Founder and Director, Agile Research University, 2017–present

Founder and Facilitator, Junior Faculty Support Group, 2022–present

Creator, Pair Research Platform, 2016–present

Member, HCOMP Steering Committee, 2014–2020

Co-chair, HCOMP Doctoral Consortium, 2016

Mentor, HCOMP Doctoral Consortium, 2014, 2015

Co-organizer, CrowdCamp, 2014, 2015

Scheduling Chair, CHI & CSCW, 2013, 2014

Chair, HCOMP Works-in-Progress and Demo track, 2014

Co-organizer, Human Computation Workshop (HCOMP), 2011, 2012

Co-editor & advisor, CrowdResearch.org blog, 2011–2016.

Program committee: Conference on Computer-Supported Cooperative Work and Social Computing (CSCW) 2018, 2019, 2022; Collective Intelligence (CI) 2017; Conference on Artificial Intelligence (AAAI) 2014; International Conference on World Wide Web (WWW) 2014, 2017; International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) 2014; International Joint Conferences on Artificial Intelligence (IJCAI) 2013; Conference on Human Computation and Crowdsourcing (HCOMP) 2013, 2014, 2017; NIPS Workshop on Computational Social Science & the Wisdom of Crowds 2011; North East Student Colloquium on Artificial Intelligence 2010.

Refereeing: Machine Learning (ML) 2012; Artificial Intelligence (AIJ) 2012; ACM Symposium on User Interface Software and Technology (UIST) 2012, 2013, 2014, 2016, 2018, 2021; ACM Conference on Human Factors in Computing Systems (CHI) 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2024; ACM Conference on Computer Supported Collaborative Work and Social Computing (CSCW) 2015, 2017, 2021; ACM Transactions on Computer-Human Interaction (TOCHI) 2013; IEEE Internet Computing 2012; Transactions on Economics and Computation (TEAC) 2012; International Conference on World Wide Web (WWW) 2010, 2015, 2016; Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS) 2009; Journal of Artificial Intelligence Research (JAIR) 2009, 2015, 2016; International Journal on Human Computer Studies (IJHCS) 2016, 2017.

UNIVERSITY AND
DEPARTMENTAL
SERVICE

Chair of CS undergraduate research committee, Northwestern CS, 2019–present.

Director, CS undergraduate honors thesis program, Northwestern CS, 2021–present.

Director, Design Cluster, 2022–present

Executive Committee Member, Northwestern NICO, 2021–present

CS curriculum committee, Northwestern CS, 2015–2019.

URG selection committee, Northwestern University, 2015–2017.

Organizer, Segal Design Seminar Series, 2013–2021.

Segal research council, Northwestern University, 2013–present.

Mentor & judge, WildHacks, 2016.

Co-chair, Northwestern NICO working group on Internet and Society, 2014–2016.

CS admissions committee, Northwestern CS, 2017, 2018, 2021.

TSB admissions committee, Northwestern TSB, 2013–2017, 2023, 2024.

PhD Committee Chair: Josh Hibschan, Yongsung Kim, Ryan Louie, Leesha Malikal

PhD Committee Member: Yi Yang, Michael Lucas, Diego Gomez Zara

Garage Executive Director search committee, 2022.

Member, CS+X strategic committee, Northwestern CS, 2016–2018.

Member, CS Professor of instruction search committee, 2017–2018.

Member, TSB Faculty search committee, 2016–2017.

Member, CS Postdoc of instruction search committee, 2017.

Co-chair, CS search planning committee, Northwestern CS, 2016.

Theory search committee, Northwestern University, 2013.