

RYAN LOUIE

CONTACT INFORMATION	Northwestern University Dept. of Computer Science and Communications Delta Lab	(949) 562-1620 ryanlouie@u.northwestern.edu http://youralien.github.io
REFERENCES	Haoqi Zhang, hq@northwestern.edu Darren Gergle, dgergle@northwestern.edu Carrie J Cai, cjcai@google.com Martin Wattenberg, wattenberg@seas.harvard.edu	
EDUCATION	Northwestern University , Evanston, IL Pursuing Ph.D. in Technology Social Behavior <i>Advisor: Haoqi Zhang</i> Olin College of Engineering , Needham, MA B.S., Engineering, Robotics, May 2017	Sep 2017 - Jun 2023 (expected)
APPOINTMENTS	Delta Lab , Northwestern University , Evanston, IL <i>Graduate Student Researcher</i> Google Brain , Magenta Mountain View, CA <i>Research Intern; hosted by Jesse Engel and Anna Huang</i> Google Brain , People AI Research Mountain View, CA <i>Research Intern; hosted by Carrie J Cai</i> Olin College Crowdsourcing and Machine Learning Lab Needham, MA <i>Research Assistant; advised by Paul Ruvolo</i> Uber ATC , Pittsburgh, PA <i>Software Engineer Intern</i> Indico Enterprise AI , Boston, MA <i>Machine Learning Research Development Intern</i> DuPont Pioneer , Boston, MA <i>Data Science Intern</i>	Sep 2017 - Now Jun - Sep 2021 Jun - Sep 2019 Jun - Aug 2017 May - Aug 2016 Jun - Aug 2015 May - Aug 2014
AWARDS & HONORS	Recipient of Google PhD Fellowship in Human Computer Interaction , 2022. Finalist for Meta PhD Research Fellowship in AR/VR Human Computer Interaction, 2022. Design Research Fellow, Segal Design Research Cluster at Northwestern, Funding support from 2018 - 2019. Honorable Mention, NSF Graduate Research Fellowship, 2017.	

Grand Challenges Scholar, National Academy of Engineering Grand Challenges Scholars Program, 2017.

Olin Merit Scholarship, Half Tuition, Funding support from 2013 - 2017.

WORKING PAPERS

Ryan Louie, Kapil Garg, Darren Gergle, Haoqi Zhang. 2023. **Flexible Strategies for Structuring and Coordinating Opportunistic Social Interactions**. *Planning for re-submission to UIST 2023*

Ryan Louie, Taewook Kim, Zhenhui Peng. 2023. **Rawal: A Reflection Assistant with Active Listening for Peer Support Chats**. *Under review at the CHI 2023 Workshop on Integrating Individual and Social Contexts into Self-Reflection Technologies*

CONFERENCE & JOURNAL PAPERS

Ryan Louie, Darren Gergle, Haoqi Zhang. **Affinder: Expressing Concepts of Situations that Afford Activities using Context-Detectors**. In *Proceedings of ACM CHI Conference on Human Factors in Computing Systems (CHI 2022)*, 2022.

Ryan Louie, Jesse Engel, Anna Huang. **Expressive Communication: Evaluating Developments in Generative Models and Steering Interfaces for Music Creation**. In *Proceedings of International Conference on Intelligent User Interfaces (IUI 2022)*, 2022.

Ryan Louie, Kapil Garg, Jennie Werner, Allison Sun, Darren Gergle, Haoqi Zhang. **Opportunistic Collective Experiences: Identifying Shared Situations and Structuring Shared Activities at Distance**. In *Proceedings of ACM Human-Computer Interaction (CSCW 2020)*, 2020.

Ryan Louie, Andy Coenen, Cheng Zhi Huang, Michael Terry, Carrie J Cai. **Novice-AI Music Co-Creation via AI-Steering Tools for Deep Generative Models**. In *Proceedings of ACM CHI Conference on Human Factors in Computing Systems (CHI 2020)*, 2020.

Chris Yoon, **Ryan Louie**, Jeremy Ryan, MinhKhang Vu, Hyegi Bang, William Derksen, Paul Ruvolo. **Leveraging Augmented Reality to Create Apps for People with Visual Disabilities: A Case Study in Indoor Navigation**. In *The 21st International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2019)*, 2019. **Best Artifact Award**.

EXTENDED ABSTRACTS

Paul Ruvolo, **Ryan Louie**, and Eric Jerman. 2023. **The Cane Game: An Educational Tool for Orientation and Mobility**. In *Extended Abstracts of the ACM CHI Conference on Human Factors in Computing Systems (CHI 2023)*

Nina Cong, Kevin Cheng, Haoqi Zhang, **Ryan Louie**. **Collective Narrative: Scaffolding Community Storytelling through Context-Awareness**. In *Companion Publication of the 2021 Conference on Computer Supported Cooperative Work and Social Computing (CSCW'21 Companion)*, 2021.

STUDENT RESEARCH COMPETITION PAPERS	<p>Cindy Hu. Self-Disclosure for Early Relationship Development through Situated Prompts in Opportunistic Collective Experiences. In <i>Extended Abstracts of the ACM CHI Conference on Human Factors in Computing Systems (CHI 2022)</i>, 2022. 2nd Place in Undergraduate Student Research Competition.</p> <p>Gabriel Caniglia. Cast: A Context-Aware Collaborative Storytelling Platform. In <i>Extended Abstracts of the ACM CHI Conference on Human Factors in Computing Systems (CHI 2020)</i>, 2020.</p> <p>Jennie Werner, Allison Sun. Cerebro: A Platform for Opportunistic Collective Experiences. In <i>Extended Abstracts ACM CHI Conference on Human Factors in Computing Systems (CHI 2018)</i>, 2018. 2nd Place in Undergraduate Student Research Competition.</p>
WORKSHOP PAPERS	<p>Ryan Louie, Jesse Engel, Anna Huang. A Unified Evaluation of Expressive Generative Models and Steerable Interfaces for Music Creation. In <i>GenAICHI Workshop at CHI 2022</i>. May 2022. [Workshop Info]</p> <p>Ryan Louie, Andy Coenen, Cheng Zhi Huang, Michael Terry, Carrie J Cai. Cococo: AI-Steering Tools for Music Novices Co-Creating with Generative Models In <i>IUI 2020 workshop on Human-AI Co-Creation with Generative Models</i>. April 2020.</p>
PRESENTATIONS	<p><i>Human AI Interfaces: Realizing AI's Potential to Foster Desired Human Experiences</i>. Seminar in Informatics School at New Jersey Institute of Technology, Feb 2023.</p> <p><i>Affinder: Expressing Concepts of Situations that Afford Activities using Context-Detectors</i>. In CHI 2022 conference session on AI: Design and Studies, May 2022.</p> <p><i>Expressive Communication: Evaluating Developments in Generative Models and Steering Interfaces for Music Creation</i>. In IUI 2022 conference, March 2022.</p> <p><i>Empowering Novice Composers to Realize their Creative Goals using Generative Models</i>. In Music + AI reading group at the Montreal Institute of Learning Algorithms (MILA) + Vector Institute, April 2022. [Talk]</p> <p><i>Opportunistic Collective Experiences: Identifying Shared Situations and Structuring Shared Activities at Distance</i>. In CSCW 2020 conference session on Coordination and Collaboration. October 2020. [Talk]</p> <p><i>Novice-AI Music Co-Creation via AI-Steering Tools for Deep Generative Models</i>. In CHI 2020 conference session on Sound and Musical Experiences. May 2020. [Talk, Session Info]</p> <p><i>Cococo: AI-Steering Tools for Music Novices Co-Creating with Generative Models</i>. In IUI 2020 workshop on Human-AI Co-Creation with Generative Models. April 2020. [Slides, Workshop Info]</p>

TEACHING
EXPERIENCE

Northwestern University, Evanston, IL USA

TA, CS315 Design Technology Research Winter & Spring 2022
Project Mentor, CS315 Design Technology Research Fall 2017 - Now
TA, CS314/COMM351 Technology Human Interaction Winter 2021

Olin College of Engineering, Needham, MA USA

Teaching Assistant, ENGR3590 Computational Robotics Spring 2017
Teaching Assistant, ENGR/MTH2199C Data Science Spring 2015
Teaching Assistant, MTH2220 Linearity II Fall 2014
Teaching Assistant, MTH2210 Linearity I Spring 2014

UNDERGRADUATE &
MASTERS RESEARCH
ADVISING

Collective Narratives Richard Lam, Parveen Dhanoa, Jenny Chang, Nina Cong, Kevin Cheng, David Lee, Gabriel Caniglia, Sanfeng Wang, Gino Wang, and Eunice Lee Fall 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."

Relationship Development through OCEs Cindy Hu, Victoria Tran, Grace Wainaina, Mason Lin, Zachary Cmiel, Amy Yang, Mary Truong, and Navin Gopaul Winter 2019 to present

- Advise research on "Relationship Development Through Opportunistic Collective Experiences."
- Work led to CHI 2022 Student Research Competition Paper on "Self-Disclosure for Early Relationship Development through Situated Prompts in Opportunistic Collective Experiences."

Cerebro Ryan Jeon, Matthew Wang, Suzy Lee, Allison Sun, and Jennie Werner Fall 2017 to Fall 2018

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

McGonagall Meg Grasse, Andrew Finke Fall 2017 to Fall 2018

- Co-mentored research planning on "McGonagall: Transfiguring Mixed-Fidelity Paper Prototypes to Remotely Test Mobile App Experiences"

PROFESSIONAL ACTIVITIES	<p>Program committee: IUI 2022 Workshop on Human-AI Co-Creation with Generative Models.</p> <p>Reviewer: ACM Conference on Human Factors in Computing Systems (CHI) 2023; ACM Conference on Computer Supported Cooperative Work (CSCW) 2022; ACM Conference on Design of Interactive Systems (DIS) 2022.</p>
DEPARTMENT SERVICE	<p>Moderator for a Panel on Industry Careers for PhDs in HCI and Communication Studies, Spring 2021.</p> <p>Poster and Demos Organizer, Northwestern Technology and Social Behavior Prospective Student Visit Day, Winter 2019.</p>
BLOG & ONLINE ARTICLES	<p><i>Supporting Designers in Expressing Human Experiences to AI and Context-Aware Technologies</i>, Northwestern Computer Science Website</p> <p><i>HCI and ML: Putting People First</i>, Google Magenta Team Website</p> <p><i>R. Louie. Neural Image Captioning for Mortals. indico Blog: Resources for exploring machine learning and data science</i>, 2015.</p>
PATENTS / PRIOR ART	<p>Ryan Louie, Nicole Rifkin, Brandon Rohrer. Method for quantifying crop health using overhead imagery. <i>The IP.com Prior Art Database</i>, DuPont Pioneer, 2015.</p>
EXTRACURRICULAR ACTIVITIES	<p>Northwestern University Table Tennis Club President Fall 2019 - Now</p> <p><i>Competitor in National Collegiate Table Tennis Association Tournaments</i> Fall 2017 - Now</p> <ul style="list-style-type: none"> - During my 4 years as president, I led 12 - 16 students per year to represent Northwestern to compete against other colleges and universities across Varsity Co-Ed, Womens, and JV Co-Ed divisions. - Qualified and Competed at Nationals Competition (top 24 schools in North America) in 2018, 2022, and 2023 held in Round Rock, TX.