ALAN Y. CHENG

Contact Information

http://a7c.github.io/ 408-609-6270
ayc@stanford.edu

Research Interests

Educational technology, human-computer interaction, learning sciences, human-centered AI, game design

Education

Stanford University, Stanford, CA — Sep 2020 - Present
Ph.D., Computer Science *(Advisors: James Landay, Chris Piech)*
M.A., Education *(Advisor: Roy Pea)*

Cornell University, Ithaca, NY — Jan 2018 - May 2018
M.Eng., Computer Science

Cornell University, Ithaca, NY — Aug 2013 - Dec 2017
B.A., Computer Science, *summa cum laude*
Hunter R. Rawlings III Cornell Presidential Research Scholar

Kyoto Consortium for Japanese Studies, Kyoto, Japan — Sep 2016 - Apr 2017

Refereed Publications

Alan Y. Cheng, Carolyn Q. Zou, Anthony Xie, Matthew Hsu, Felicia Yan, Felicity Huang, David K. Zhang, Arjun Sharma, Rashon Poole, Daniel Wan Rosli, Andrea Cuadra, Roy D. Pea, and James A. Landay. "Oak Story: Improving Learner Outcomes with LLM-Mediated Interactive Narratives." *Proceedings of the 38th Annual ACM Symposium on User Interface Software and Technology (UIST 2025).* **[link]**

Alan Y. Cheng*, Meng Guo*, Melissa Ran, Arpit Ranasaria, Arjun Sharma, Anthony Xie, Khuyen N. Le, Bala Vinaithirthan, Shihe (Tracy) Luan, David Thomas Henry Wright, Andrea Cuadra, Roy D. Pea, and James A. Landay. "Scientific and Fantastical: Creating Immersive, Culturally-Relevant Learning Experiences with Augmented Reality and Large Language Models." *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI 2024).* **[link]**

Alan Y. Cheng, Ellie Tanimura, Joseph Tey, Andrew C. Wu, and Emma Brunskill. "Brief, Just-in-Time Teaching Tips to Support Computer Science Tutors." *Proceedings of the 55th ACM Technical Symposium on Computer Science Education (SIGCSE 2024).* **[link]**

Alan Y. Cheng, Jacob Ritchie, Niki Agrawal, Elizabeth Childs, Cyan DeVeaux, Yubin Jee, Trevor Leon, Bethanie Maples, Andrea Cuadra, and James A. Landay. "Designing Immersive, Narrative-Based Interfaces to Guide Outdoor Learning." *Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI 2023).* **[link]**

Alan Cheng, Lei Yang, and Erik Andersen. "Teaching Language and Culture with a Virtual Reality Game." *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI 2017.* **[link]**

Non-Archival Publications

Carina Ly, Eleanor Peng, Katie Liu, Anthony Qin, Grace Howe, **Alan Y. Cheng**, Andrea Cuadra "Museum in the Classroom: Engaging Students with Augmented Reality Museum Artifacts and Generative AI." *Proceedings of the Extended Abstracts of the 2025 CHI Conference on Human Factors in Computing Systems (CHI EA 2025).* **[link]**

Research Experience

Research Assistant — Sep 2020 - Present
Computer Science Department, Stanford University
Areas:
- Context-aware technology for ubiquitous learning

- Augmented reality, narrative, and game design for learning
- Technology for supporting novice tutors at scale

Advisors: James A. Landay & Chris Piech

Undergraduate Research Assistant Jan 2015 - Dec 2017
Department of Computer Science, Cornell University
Area: Teaching language via virtual reality and mobile games
Advisor: Erik Andersen

Grants and Awards

Learning through Creation with Generative AI Feb 2025 - Feb 2026
Awarded $50,000 in grant funding from Stanford Accelerator for Learning for our project, "Language Learning Through the Creation of Immersive Role Play Simulations." (with collaborators Danilo Symonette and James Landay)

Research on Innovative Technologies for Enhanced Learning Oct 2024 - Present
Awarded $900,000 in grant funding from NSF for our project, "Exploring AI-augmented mobile augmented reality for precollege culturally-relevant science learning simulations." (student lead under PI Bryan Brown and Co-PIs Roy Pea and James Landay)

Generative AI for the Future of Learning Grant Apr 2023 - Apr 2024
Awarded $5,000 in grant funding from Stanford Accelerator for Learning for our project, "Museum in the Classroom: Enhancing Learning Engagement and Comprehension of School Topics Through an AR-Based Educational App." (with collaborators Carina Ly and Andrea Cuadra)

Brown Institute for Media Innovation Magic Grant Sep 2021 - Sep 2022
Awarded $65,000 in grant funding for our project, "The World Is Your Textbook: Enabling Context-Aware Augmented Reality Learning Experiences." (with collaborators Jacob Ritchie and James Landay)

The Computer Science Prize for Academic Excellence and Leadership May 2018
Awarded $1,000. Given by the Department of Computer Science at Cornell University to one graduating senior "who has excelled academically, demonstrating a strong commitment to the educational ideals of the University and of the [department]."

Outstanding Undergraduate Teaching Assistant Award May 2016, May 2018
Awarded by Prof. Michael Clarkson in acknowledgment of work done as a TA of Cornell's CS 3110: Data Structures and Functional Programming.

Japanese National Honor Society May 2018

Teaching Experience

Co-Instructor, Stanford University Autumn 2023, Autumn 2024, Autumn 2025
CS 147L: Cross-Platform Mobile Development (125 - 160 students)
Instructors: **Alan Cheng** & James Landay

Head Course Assistant, Stanford University Autumn 2025
CS 147: Introduction to Human-Computer Interaction Design
Instructor: James Landay

Co-Instructor, Stanford University Summer 2022, 2023, 2024, 2025
Coding for Engineers (5-week course for summer fellowship students)
Instructors: **Alan Cheng**, Julia Costacurta (2022-2024), Carmichael Ong (2022-2023), Queenie Lin (2025), Melody Fuentes (2025) & Marissa Lee (2022)

Co-Instructor, Stanford University Summer 2021
CS 103: Mathematical Foundations of Computing (116 students)
Instructors: **Alan Cheng** & Fei Fang

Co-Head Teaching Assistant, Cornell University Spring 2018
CS 3110: Data Structures and Functional Programming
Instructor: Nate Foster

Teaching Assistant, Cornell University Spring 2014 - Spring 2016, Fall 2017

CS 3110: Data Structures and Functional Programming (4 semesters)
CS 3152: Introduction to Computer Game Architecture
CS 2110: Object-Oriented Programming and Data Structures
Instructors: Michael Clarkson, Walker White, Ashutosh Saxena, & David Gries
Awarded Outstanding Undergraduate Teaching Assistant Award twice

Employment

Lead Engineering Learning Consultant (Managing) Mar 2022 - Present
Center for Teaching and Learning
Manage a team of Engineering Learning Consultants (ELCs) who help graduate students with academic skills. Develop summer courses for underrepresented students in engineering. Interview and recruit ELCs to our program.
Stanford University, Stanford, CA

Engineering Learning Consultant Sep 2020 - Mar 2022
Center for Teaching and Learning
Design and conduct workshops, studios, and panels to help undergraduate and graduate students with academic skills, with a focus on under-served students in the School of Engineering.
Stanford University, Stanford, CA

Software Engineer Oct 2018 - Aug 2020
Messenger Web team
Contributed to several major rewrites of Messenger's web surfaces by building core features and addressing user issues. Improved the quality of our codebases by increasing type safety, migrating legacy code, writing tests, and fixing longstanding bugs. Served as an intern manager and mentored teammates and other interns.
Facebook, Menlo Park, CA

Service

Conference and Journal Reviews
UIST 2025
IDC 2025
CHI 2025
CHI 2024
CHI 2023
Journal of Research in Science Teaching 2019

Departmental Service
HCI Webmaster, 2022-2024
CS PhD Admissions Committee 2021-2022
HCI Lunch Co-Organizer 2021-2022
CS PhD Student-Applicant Support Program Reviewer 2020, 2021
Stanford CS Mentoring Program 2020-2021

Skills / Other

Programming languages, engines, and libraries: JavaScript, TypeScript, React, HTML, CSS, Python, Unity, C#, ReScript/ReasonML, OCaml, Java, LaTeX
Natural languages: English (native), Mandarin (bilingual), Japanese (fluent), Cantonese (intermediate)
Activities: Assistant Music Director (2022-2024) for Stanford O-Tone (East Asian & Asian-American a cappella group)