Ariel Han, Ph.D.

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Chapman University
Fowler School of Engineering

Academic & Research Appointments

Chapman University — Aug. 2025 - present
Postdoctoral Fellow

University of Southern California — July. 2024 - July 2025
Postdoctoral Scholar

Education

University of California, Irvine, CA — Sept. 2019 - July. 2024
Ph.D. Informatics

Carnegie Mellon University, PA — Aug. 2011 - Feb. 2013
M.S. Entertainment Technology

Seoul National University, Seoul, South Korea — Mar. 2005 - Feb. 2011
B.A. Information Technology,
B.F.A. Industrial Design, Fine arts

Publications

Manuscripts in Progress

Under Revision

[J4] **Han, A.,** Huang, J., Han, S., & Peppler, K. (2025) Balancing Scaffolding and Agency: How AI Story Suggestions Shape Children's Writing Processes and Narrative Development. *Journal of Learning Sciences*.

[J5] Min, A., Dickerson, K., Park, S., Dotch, E., **Han, A.**, Rubin, J., Lombard, E., Chen, K., Divanji, R., Odgers, C., & Hayes, G. R. (2024). Perceptions of AI-driven EdTech: Nationwide survey and focus group insights from key end users. *In ACM Transactions on Computer-Human Interaction TOCHI*

Under Review

[C6] **Han, A.,** Cai, Z., Han, S., & Peppler, K. StoryBot: Co-Designing a GenAI-Based Story-Authoring Platform with Primary School Teachers to Scaffold Student Writing. *ACM CHI*

[C5] **Han, A.,** & Sung, S. 2025 Navigating a Human-Centered Machine Learning Course: Affordances and Challenges for Diverse Learners. *AAAI/EAAI*

[C4] Sung, S., **& Han, A.** Designing Makerspaces for Community Impact: Collaborative Learning through Social, Material, and Spatial Complexity. *ACM CHI*

Referred Conference Proceedings

[C3] Cai, Z., Wei, S., **Han, A.**, & Peppler, K. A. (2025). "Hi Kids, Let's Talk About How Snakes Hunt": Understanding the Process of Children's Instructional Video Creation through a Workshop Study. In Proceedings of the *Interaction Design and Children (IDC)*. https://doi.org/10.1145/3713043.3728859

[C2] **Han, A.**, Zhou, X., Cai, Z., Han, S., Ko, R., Corrigan, S., & Peppler, K. 2024. Teachers, Parents, and Students' Perspectives on Integrating Generative AI into Elementary Literacy Education. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, CHI '24*, May 11–16, 2024, Honolulu, HI, USA: Association for Computing Machinery. https://doi.org/10.1145/3613904.3642438

[C1] Oh, H., Deshmane, A., Li, F., **Han, J. Y.**, Stewart, M., Tsai, M., ... & Oakley, I. (2013, February). The digital dream lab: tabletop puzzle blocks for exploring programmatic concepts. In Proceedings of the 7th International Conference on *Tangible, Embedded and Embodied Interaction (TEI '13)*. Association for Computing Machinery, New York, NY, USA, 51–56. https://doi.org/10.1145/2460625.2460633

Journal Articles

[J3] Lee, U., **Han, A.,** Lee, J., Kim, J., Lee, E., Kim, H., & Lim, C. (2023). Prompt Aloud!: Incorporating image-generative AI into STEAM class with learning analytics using prompt data. *Education and Information Technologies*. https://doi.org/10.1007/s10639-023-12150-4

[J2] Huang, J., **Han, A.**, Villanueva, A. M., Liu, Z., Zhu, Z., & Ramani, K. Peppler, K., A., (2023). Deepening Children's STEM Learning through Making and Creative Writing. *In Proceedings of the 2023 International Journal of Computer Child Interaction, IJCCI.* https://doi.org/10.1016/j.ijcci.2024.100651

[J1] Peppler, K., Keune, A., & **Han, A.** (2021). Cultivating data visualization literacy in museums. *Information and Learning Sciences*, *122*(1/2), 1–16. https://doi.org/10.1108/ILS-04-2020-0132

White Papers, Short Papers, Posters, Workshop Papers, and Doctoral Consortium

[L23] **Han, A.**, & Han, S. (2025). Empowering children's AI literacy through co-creating stories with LLM. *In Proceedings of the Interaction Design and Children (IDC)* .https://doi.org/10.1145/3713043.3731520.

[L22] Cai, Z., **Han, A.**, Zhou, X., Gazulla, E. D., & Peppler, K. (2025). Child-AI Co-Creation: A Review of the Current Research Landscape and a Proposal for Six Design Considerations. *Proceedings of the 24th Interaction Design and Children*, 916-922. https://doi.org/10.1145/3713043.3731506

[L21] **Han, A.,** Han, S., Corrigan, S., & Peppler, K. (2025, May 6). Design implications of Generative AI tools for School aged Children for Narrative Writing. Considering Cultural and Linguistic Diversity in AI Applications Workshop (CALD-AI workshop), Hybrid (In-Person/Virtual). https://doi.org/10.5281/zenodo.15277268

[L20] **Han, A.,** & Sung, S (2025). Human-Centered AI and Machine Learning Education: A Challenge-Based Reflective Learning Approach for Non-Technical Learners. *Association of Science and Technology Centers (ASTC)*. (Accepted)

[L19] **Han, A.,** Sung, S., & Ajay, S. (2025, April 11). A Challenge-Based Reflective Learning Framework for Transdisciplinary AI/ML Education. *USC Center for AI in Society Symposium*, University of Southern California, Los Angeles, CA. (Accepted)

[L18] Rubin, J. D., Lombard, E. J., Chen, K., Divanji, R., Min, A., Dotch, E., **Han, A.,** Dickerson, K., Hayes, G., & Odgers, C. (2025). Navigating AI as a family: Caregivers' perspectives and strategies [White paper]. foundry10. https://www.foundry10.org/resources/navigating-ai-as-a-family

[L17] Sung, S., **Han, A.**, Moolayadukkam, S., & McCormick, K. E. (Accepted). Future Innovators: Growing the Future Self through Creative Making and Material Discovery. *STEAM Symposium Proposal*.

[L16] Sung, S., & **Han, A.** (2025). From HCI classroom to complex challenges: Enhancing HCI education through cross-disciplinary and stakeholder engagement. In Extended Abstracts of the CHI Conference on Human Factors in Computing Systems (CHI EA '25), April 26-May 1, 2025, Yokohama, Japan. ACM, New York, NY, USA, 11 pages. https://doi.org/10.1145/3706599.3706697

[L15] Ojeda-Ramirez, S., **Han, A.**, & Peppler, K. (2025). Reflective AI-Partnerships: How Middle Schoolers Balance Creativity and AI Collaboration. *ISLS Proceedings: 19th Annual Conference of the Learning Sciences* (pp. X-X). Helsinki, Finland: *International Society of the Learning Sciences*. https://doi.org/10.22318/cscl2025.485037

[L14] **Han, A.**, Corrigan, S., Han, S., & Peppler, K. (2024). Co-Design a Logic Model for Inclusive AI-Powered Learning Application with Primary School Teachers. International Society of the Learning Sciences. *ISLS Proceedings: 17th Annual Conference of the Learning Sciences* (pp. X-X). Buffalo, New York: International Society of the Learning Sciences. https://doi.org/10.22318/cscl2024.869864

[L13] **Han, A.** & Han, S. (2024). AIstory-bot: AI-based digital story writing platform for children's AI literacy. *XRDS: Crossroads, the ACM Magazine for Students, issue on AI in Education(Summer, 2024)*. https://doi.org/10.1145/3688084

[L12] **Han, A**., Cai, Z., Jeong, S., & Choi, S. M. (2023). AIStory: design implication of using generative arts AI for visual storytelling. *Child-Centered AI Design: Definition, Operation, and Considerations ACM CHI 2023 Workshop*.

[L11] **Han, A.,** & Cai, Z. (2023). Design implications of generative AI systems for visual storytelling for young learners. *Interaction Design and Children (IDC)*. https://doi.org/10.1145/3585088.3593867

[L10] **Han, A.** (2023). Ai Virtuous Circle: Preparing Youth for the Future of Creative Economy. *Proceedings of the 22nd Annual ACM Interaction Design and Children Conference*. https://doi.org/10.1145/3585088.3593919

[L9] **Han, A.,** Huang, J., Villanueva, A. M., Peppler, K. A., Liu, Z., Zhu, Z., & Ramani, K. (2022). Coding a MacGuffin: Recommendations for Teaching Narrative-based IoT Design. *In Proceedings of the 2022 American Educational Research Association (AERA).*

[L8] Lee, U., **Han, A.,** Lee, J., Kim, J., Lee, E., Kim, H., & Lim, C. (2023). Implication of a Case Study using Generative AI in Elementary School: Using Stable Diffusion for STEAM Education. *Association for Educational Communications & Technology (AECT).*

[L7] **Han, A** (2023). Implications of AI art generators to broaden visual literacy and creative expression for young learners *International Society of the Learning Sciences (ISLS) Annual Meeting 2023.* International Society of the Learning Sciences.

[L6] **Han, A.,** Keune, A., Huang, J., & Peppler, K., (2022). Visualizing Family Engagement in Museum Settings. In: J. Oshima, T. Mochizuki, & Y. Hayashi (Eds.) International Collaboration toward Educational Innovation for All: *International Society of the Learning Sciences (ISLS) Annual Meeting 2022 (pp. 1094-1095)*. Hiroshima, Japan: *International Society of the Learning Sciences*. https://dx.doi.org/10.22318/icls2022.1904

[L5] Huang, J., **Han, A.**, Sedas, M., Telfer-Radzat, K.,& Peppler, K., (2022). Crafting paper circuits: Gendered materials for circuitry learning. In J. Oshima, T. Mochizuki, & Y. Hayashi (Eds.) *International Collaboration toward Educational Innovation for All: International Society of the Learning Sciences (ISLS) Annual Meeting 2022*. Hiroshima, Japan: International Society of the Learning Sciences.

[L4] Peppler, K., Keune, A., & **Han, A. J.** (2020). Civic engagement with visualizing data in science museums. In M. Gresalfi & I. Horn (Eds.), The interdisciplinarity of the learning sciences: International Conference of the Learning Sciences (ICLS) 2020. Nashville, TN: International Society of the Learning Sciences.

[L2] Peppler, K., Keune, A., & **Han, J.A.** (July 2020). Data Visualization Exploration in Science Museums. *Connected Learning Summit (CLS), July 29-31, 2020, Cambridge, MA.*

[L1] Peppler, K., Keune, A., & **Han, A. J.** (2019) AISL II CNS Phase 1 Learning Science Research Report. Project deliverable for the National Science Foundation project #1713567.

Research Experience

StoryAI: GenAI-powered story-authoring platform for children (2021-Present), Department of Informatics, UC Irvine, Project Lead, (Funding: NSF VITAL and PoP Grants)
"*StoryAI: visual-story co-creation app with AI generator*"
Actively designing, developing, and evaluating AI-powered tools to support literacy and creative expression through interactive visual story creation using generative AI for youth. We examine the effectiveness and validity of learning apps, child-AI interaction, and collaboration strategies

- Design and develop a prototype using OpenAI GPT-3, Vue.js.
- VITAL Prize challenge (NSF sponsored) funded project, received $20,000.

Re-Crafting Computer Science: Fiber Crafting as Computational Thinking (2023-2024)
Department of Informatics, UC Irvine, Creativity Labs, (Grant Funding: NSF Core; PI: Dr. Kylie Peppler, Co-PI: Dr. Carolyn Rose, Dr. Melisa Orta Martinez)

- Data analysis, literature review, publication writing.

Future of Work at the Human-Technology Frontier (2021-2022), Department of Informatics, UC Irvine, Creativity Labs, Funded by National Science Foundation (#1839896)
Investigators: Dr. Karthik Ramani, Purdue University; Dr. Kylie Peppler, University of California, Irvine; Daron Acemoglu, Massachusetts Institute of Technology.

- Conducted user-testing (focus group workshops), planning and creating workshop settings
- Writing literature reviews to support writing publishable papers.
- Conducted mixed-method research with video, audio transcripts, and pre-post test data.
- Data analysis with video data (qualitative) as well as pre-post tests data (quantitative: SPSS).

Data Visualization Literacy: Research and Tools that Advance Public Understanding of Scientific Data (2019-2021), Department of Informatics, UC Irvine, Creativity Labs,
AISL CNS, Funded by National Science Foundation (#1713567)
Investigators: Katie Börner, Kylie Peppler, Bryan Kennedy, Stephen Uzzo, and Joe Heimlich, Indiana University, 2019-2020.

- Conducted data analysis (thematic analysis) in part of qualitative research including semi-structured interviews, video data, and transcripts of user experience.
- Literature reviews in collaborative writing process submitting various publication venues.

Paper Mechatronics: A new interdisciplinary design medium combining traditional paper crafting with elements of mechanical design, electronic engineering, and computational thinking (2018-2019), The Concord Consortium, Emeryville, CA
Funded by National Science Foundation (#1713567)
Investigators: Sherry Hsi (PI), Mike and Ann Eisenberg (Co-PI's), /at CU Boulder, 2017-2019 & 2014-2016

- Conducted experiments in workshop settings with 30 teachers.
- Conducted a series of studies in libraries with surveys, interviews, and video-recorded.

Digital Dream Lab: Teaching kids a basic concept of coding with interactive digital media in the children's museum (2012-2013), Carnegie Mellon University, PA.

- Conducted a series of user tests at the museum and implemented iterative design development.

Teaching Experience

Lead Instructor

Chapman University (Fall, 2025, Schmid College of Science and Technology)

- FFC 100B, a First-Year Foundations Course called Grand Challenges in Science and Engineering (3 credits)
- GCI 200 - Grand Challenges in Science and Engineering II (1 credit)

Directed Research (Co-instructor, USC IYA, Spring 2025)

- Research Design course for undergraduate students (1 credit)

Teaching Assistant

Informatics, University of California, Irvine, Teaching Assistant, Graduate Courses (MHCID)

- Innovations in HCID – Summer 2023 (Prof. Mark S Baldwin)
- Overview of HCID - Spring 2023 (Prof. Mark S Baldwin)
- Design and prototype – Fall 2022 (Prof. Anne Marie Piper)

Undergraduate Courses (ICS & Informatics)

- Human-Computer Interaction (HCI) – Spring 2022 (Prof. Gloria Mark)
- Ubiquitous Computing - Winter 2022 (Prof. Kylie Peppler)
- Design and prototype – Fall 2021 (Prof. Sarah Murray)
- Ubiquitous Computing - Winter 2020 (Prof. Kylie Peppler)
- HCI Project - Spring 2020 (Prof. Matt Bietz)

Grants and Fellowship

Awarded

Research Grant Funding | 2025
$5,000, Chapman University

Proof-of-Product (PoP) Grants | 2024
$49,800, UCI Beall Applied Innovation
PI. Kylie Peppler, Ariel Han, Shenshen Han, and Seth Corrigan

VITAL Prize Challenge (NSF) | 2023
$35,000 Semi-Finalist
Team StoryAI (PI. **Ariel Han**, Kylie Peppler Shenshen Han, and Seth Corrigan)

UCI Beall Applied Innovation's (BAI) | 2023
$5,000 PhD Graduate Innovation Fellowship
Transitioning research project to entrepreneurship

Rejected

NSF STEM Postdoctoral Fellowship
Empowering AI Literacy: A Teacher-AI Collaborative Story Authoring Platform for Secondary School Classroom

Service

Professional Contributions

- ACM Conference on Tangible, Embedded, and Embodied Interaction (TEI) 2026, Associate Chair.
- Educational Advances in Artificial Intelligence (EAAI/AAAI) 2026, Program Committee (AI for Education Track)

- AERA 2026, SIG-Design and Technology, Program Committee
- International Society of Learning Sciences (ISLS) 2023-2025, Program Committee

Journal/Conference Publication Review

- International Journal of Human-Computer Interaction (IJHCI) 2024/25
- International Journal of Human-Computer Studies (IJHCS) 2025
- ACM Human-Robot Interaction (HRI) 2025
- International Society of Learning Sciences 2024/25
- ACM Human Factors in Computing Systems (CHI) 2024/25
- Human-Machine Communication 2024
- New Media & Society 2024
- The ACM Symposium on User Interface Software and Technology (UIST) 2023
- International Journal of Child-Computer Interaction (IJCCI) 2023

Grant Review

Maryland Technology Enterprise Institute: MIPS proposals: https://mipstrack.umd.edu/

USC IYA Undergraduate Admission Review

Reviewed 20 applications for incoming students in the 2025 cohort.

Invited Talk

Generative Artificial Intelligence | 2025, March | Story Brook University
Department of Technology and Society

California STEAM Symposium | 2025
Future Innovators: Growing the Future Self through Creative Making and Material Discovery.

Generative AI in Education: Insights from StoryAI's Employment | NC State University, (NCSU) Department of Computer Science | 2024

AI K12 Deeper Learning Summit | Digital Promise, AIEDU | 2024

Harnessing Generative AI in Education: Insights from StoryAI's Design and Development | University of Pittsburgh, School of Computing and Information & Learning Research and Development Center | 2024

Guest Lecture

Generative AI and Education | 2025 | UC Irvine
IN4MATX 153 Computer Supported Cooperative Work (CSCW), invited by Dr. Aehong Min

Generative AI for Speech Pathology and Children with Special Needs | 2025 | USC Keck

OHNS 303 Telehealth and Assistive Technology, invited by Dr. Yao Du

Empowering Youths with AI-powered Story-Authoring Platform | 2024 | NC State University, (NCSU) Department of Education, invited by Dr. Joey Huang

Members

International Society of the Learning Sciences (ISLS)
Connected Learning Summit (CLS)
Association for Computing Machinery (ACM)
American Educational Research Association (AERA)
Interaction Design Association (IxDA)

Mentor Service

Shwetha Ajay, Master student, USC IYA, shwethaa@usc.edu
Zhenayo Cai, PhD student, UCI School of Education, zhenyaoc@uci.edu
Ulia Zaman, Undergraduate student, UCI ICS, LEAD program, uzaman@uci.edu
Seungmin Jeong, Master student, UCI, Informatics, jsm772x@gmail.com
Ray An, Undergraduate student, UCI ICS, hsrayan05@gmail.com
Rei Gaddi Undergraduate student, UCSB, rei_gaddi@umail.ucsb.edu
Richard Ko, Undergraduate student, UCI ICS, kor2@uci.edu

References

Advisor	**Kylie Peppler**	kpeppler@uci.edu
Mentor	**Joey Huang**	chujenh@uci.edu
Committee	**Katie Salen**	ksalen@uci.edu
Committee	**Kurt Squire**	ksquire@uci.edu

Professional Experiences

The Concord Consortium, Emeryville, CA, 2018
Research assistant intern
Contributing to developing lesson plans and tutorials for the educational toolkit, Paper mechatronics for creative design, and engineering education

42 Silicon Valley Software Engineering School, Fremont, CA, 2016 - 2019
Software engineer
Developing web applications, projects in commercial websites, and educational applications.

Edlab Teachers College Columbia University, New York, NY, May. 2013 - Aug. 2013
Data visualization design intern
Created data visualization using the usage metrics of the Edlab product, New Learning Times, and educational journal website.

The Children's Museum of Pittsburgh, Pittsburgh, PA, Jan. 2011 - May. 2012
Interaction Designer
Designed and fabricated an exhibition of educational interactive media for children in the museum. Conducted user and qualitative studies, including interviews and ethnographic studies at the museum.

Hyundai Motor Company, Seoul, South Korea, May 2009 - Sep. 2009
Exterior Design intern
Created a futuristic, environmentally friendly concept vehicle mock-up in digital and physical form and exhibited in the lab.

Honors and Awards

National Global Scholarship from Ministry of Culture, Sports and Tourism of Korea | 2011
Received $27,090 for the master's degree in Entertainment Technology at Carnegie Mellon University from the Korean government organization KOCCA (Korea Creative Content Agency)

Walt Disney Imagineering | Semi-Finalist | 2012
Designed a theme park experience in virtual space

Korea Institution of Design | Interaction Design Award | 2011
Space design competition in Seoul, Korea
Re-designed a historic place in Seoul

Research Assistant Scholarships, Seoul National University | Industrial Design | 2010
Research project working with the Hyundai Motor Company
Designed and exhibited a futuristic concept car

Visiting Student Program Scholarships, Tsinghua University, Beijing, China | Environment Design | 2009
Summer visiting workshop and design competition for the space design
Studying materials for interior design

Workshops

Troy Tech High School CS research summer program | Irvine, CA | July 2022, 2023
6 weeks summer workshop with Troy Tech high school students, taught computing research processes, designing and developing AI-powered learning applications using GPT, Javascript, and Python

Paper Mechatronics with Tinkering Studio, Exploratorium | San Francisco, CA | Nov 2018
Ran a tinkering workshop with the Bay Area Maker Education group for testing Paper Mechatronics project

Paper Mechatronics, STEM activity, Union City Library | Union City, CA | Oct 2018
Ran a STEM activity for ages 8 to 12 about teaching mechanical movement with paper crafting

Scratch coding workshop | Walnut Creek, CA | May 2018
Taught scratch programming language to children aged 5 to 8 by creating a simple animation

STEM Lab Activity, Palo Alto City Library | Palo Alto, CA | Oct 2018
STEM activity to teach simple engineering concepts through crafting for ages 5 to 8

Skills

Programming Languages	JavaScript, Python, HTML, CSS
Design Tools	Adobe Illustrator, Photoshop, Maya, Unity
UX design	Sketch, Adobe XD, Figma
User Experience Research	Usability Studies, Iterative Design, Prototype, Qualitative research methods (interviews, field study), Surveys