

Ariel Han

(412) 608-2665 | arielhan@usc.edu | <https://arielhan87.github.io>
 University of Southern California, IYA
 Technology, Innovation and Learning

Current

University of Southern California
Postdoctoral Scholar July. 2024 - present

EDUCATION

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

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

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

PUBLICATIONS

Journal Articles

Han, A., Huang, J., Han, S., Corrigan, S., & Peppler, K. (2025) Human-Centered Design of a GenAI-Based Writing Tutoring Platform: Co-designing with Primary School Teachers. *Journal of Learning Sciences*, (Under review)

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>

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>

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>

Referred Conference Proceedings

Han, A., Han, S., Corrigan, S., & Peppler, K. 2025 StoryAI: Generative AI-powered Story-authoring Platform for Young Learners. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, CHI '25*, Association for Computing Machinery. (Under review)

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

Conference Workshop Papers/Doctoral Consortium

- 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, (Summer, 2024)*. (will appear soon)
- 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*.
- 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>
- 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)*. <https://doi.org/10.3102/2009108>

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.*

Peppler, K., Keune, A., & Han, A. J. (2019) AISL II CNS Phase 1 Learning Science Research Report. Project deliverable for 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
- In-progress in the [VITAL Prize challenge](#) (NSF sponsored) funded project, received \$35,000

Re-Crafting Computer Science: Fiber Crafting as Computational Thinking (2023-Present)

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, transcripts of user experience
- Literature reviews in collaborative writing process submitting various publication venues

Paper Mechatronics: A new interdisciplinary design medium combining traditional papercrafting 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 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 in iterative design development

TEACHING EXPERIENCE

**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

Proof-of-Product (PoP) Grants | 2024

\$49,800, UCI Beall Applied Innovation

Research team (Ariel Han, Kylie Peppler Shenshen Han, and Seth Corrigan)

VITAL Prize Challenge (NSF) | 2023

\$35,000 Semi-Finalist

Team StoryAI (Team lead. **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)

INVITED TALK

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

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

Review Experience

IJHCI 2024, IJCCI 2023, New Media & Society 2024, CHI 2024, ISLS 2024, UIST 2023,

MEMBERS

International Society of the Learning Sciences (ISLS)
Connected Learning Summit (CLS)
Association for Computing Machinery (ACM)
Interaction Design Association (IXDA)

MENTOR SERVICE

Zhenayo Cai, PhD student, UCI School of Education, zhenyaoc@uci.edu
Uliah 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
Richard Ko, Undergraduate student, UCI ICS, kor2@uci.edu

REFERENCES

Advisor	Kylie Pepler	kpepler@uci.edu
Mentor	Seth Corrigan	scorrig1@uci.edu

Mentor	Joey Huang	chujenh@uci.edu
Committee	Katie Salen	ksalen@uci.edu
Committee	Kurt Squire	ksquire@uci.edu

PROFESSIONAL EXPERIENCE

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.

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 ages 5 to 8

PROJECT**Xenon** – Carnegie Mellon University | Electronic Arts, Redwood City, CA, 2013

Designed future technologies for humans in communication. Research about Augmented Reality, vehicle quadcopter, wall display.

Created a video about the persona who use AR technology and an interactive wall screen with the vehicle quadcopter in daily life

Digital Dream Lab — CMU | Pittsburgh Children's Museum, Pittsburgh, PA, 2012

Designed and fabricated an exhibition for the Children's Museum Makeshop area.

The installation includes an interaction tangible programming interface for 4 to 8 year-old with puzzle blocks to introduce computational thinking and basic programming concepts. Each block links as a function on the screen of the wall.

Kids can manipulate characters, actions, and animations while playing with the blocks on the table.

SKILLS**Programming Languages**

C, JavaScript, SQL, PHP, 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