

Layne Jackson Hubbard

Designing interactive toys & media for early childhood empowerment

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Experience

- Computing Innovation Fellow** Sep. 2021 – Present
University of California Irvine, School of Education Irvine, CA
- Awarded a 2-year postdoctoral fellowship for child-AI interaction, funded by the National Science Foundation
 - Researching and prototyping the design of child-centered AI toys & media with the Converse To Learn team
 - Conducting qualitative analysis using interaction & interview data from children and parents
- Founder & Director** Feb. 2016 – Present
MindScribe.org Boulder, CO
- Iteratively designing child-robot interaction toys and games for reflective storytelling in creative play
 - Conducting user experience research with 100s of children ages 2–8 years old in 3 countries and 5 languages
 - Hired, trained, and mentored 25+ research assistants in interdisciplinary projects from robotics to linguistics
 - Awarded \$80,000 in the OpenIDEO Early Childhood Innovation Prize
- Graduate Human-Computer Interaction Researcher** Dec. 2020 – Aug. 2021
National Science Foundation (NSF) Institute for Student-AI Teaming Boulder, CO
- Researched the design of student-AI interactions for STEM learning in middle school classrooms
 - Researched the embodiment and design of an AI agent to support collaborative problem solving with peers
 - Informed the development of student personas, scenarios, and storyboards for student-AI teaming
- Data Engineer** Aug. 2014 – July 2015
Graphiq, Inc. (Acquired by Amazon Alexa) Santa Barbara, CA
- Cleansed and structured data using Python, JavaScript, MySQL, and PostgreSQL to make sense of raw datasets and transform them into structured, meaningful insights for our connected knowledge graph
- Neuroscience Research Assistant** Aug. 2012 – June 2013
Center for Neuroscience, Health, & Addiction, University of Colorado Boulder Boulder, CO
- Studied the effects of aerobic exercise interventions on brain functioning and patterns of alcohol abuse
 - Trained researchers in our experimental protocol, guided participants in testing, and coded experimental data
- Cognitive Science Research Assistant** Jan. 2012 – June 2013
Cognitive Development Center, University of Colorado Boulder Boulder, CO
- Studied the effects of social conditions on executive functioning and cognitive control in young children
 - Collaborated in a team to plan, execute, problem solve, and analyze experiments with young children
- Preschool Teacher** Aug. 2007 – May 2011
Children's House Preschool Boulder, CO
- Designed and implemented weekly curriculum to support the development of children with diverse learning needs
 - Collaborated with therapists to create specialized learning plans for at-risk children and children with disabilities
 - Met regularly with parents and caregivers to share progress and understand children's holistic learning contexts
 - Assessed children's learning across physical, social, emotional, and cognitive development

Education

- Triple Ph.D. in Computer Science, Cognitive Science, and Neuroscience** 2021
University of Colorado Boulder Boulder, CO
- Master of Science in Computer Science** 2020
University of Colorado Boulder Boulder, CO
- Bachelor of Arts in Computer Science, Class Rank #1** 2015
University of Colorado Boulder Boulder, CO
- Certification in Early Childhood Education** 2011
Front Range Community College Boulder County, CO

Fellowships & Fundings

- Computing Innovation Fellowship** | *Computing Research Association* 2021 – present
- Awarded a 2-year postdoctoral fellowship
 - Proposal: "[Designing Playful Child-Agent Interactions to Support Creativity, Reflection, and Resilience](#)"
- OpenIDEO Early Childhood Innovation Prize** | *Piton Foundation* 2018
- Awarded \$80,000 to support the design and development of [MindScribe.org](#)
- National Science Foundation Graduate Research Fellowship** | *NSF GRFP* 2017 – 2020
- Awarded a 3-year, fully funded fellowship in human-computer interaction
 - Proposal: "[Building a System to Guide Reflective Interaction for Early Childhood Empowerment](#)"
- Chancellor's Fellowship** | *University of Colorado Boulder* 2015 – 2017
- Awarded a 2-year, fully funded fellowship in computer science

Selected Research Publications

Layne Jackson Hubbard, Shanli Ding, Vananh Le, Pilyoung Kim, Tom Yeh. (2021, July). **Voice Design to Support Young Children's Agency in Child-Agent Interaction.** In ACM Conversational User Interfaces. [Read more.](#)

Layne Jackson Hubbard, Yifan Chen, Eliana Colunga, Pilyoung Kim, Tom Yeh. (2021, June). **Child-Robot Interaction to Integrate Reflective Storytelling Into Creative Play.** In ACM Creativity and Cognition (pp. 1-8). [Read more.](#)

Layne Jackson Hubbard, Boskin Erkocevic, Dylan Cassady, Chen Hao Cheng, Andrea Chamorro, Tom Yeh. (2018, March). **MindScribe: Toward Intelligently Augmented Interactions in Highly Variable Early Childhood Environments.** In the ACM International Conference on Intelligent User Interfaces. [Read more.](#)

Layne Jackson Hubbard, Chen Hao Cheng, Boskin Erkocevic, Dylan Cassady, Andrea Chamorro. (2018, March). **MindScribe: Reflective Inquiry through Scaffolded Storytelling for Low-Income and Multilingual Early Childhood Communities.** In the ACM/IEEE International Conference on Human-Robot Interaction. [Read more.](#)

Awards

- Child-Centered AI Research Grant** | *NSF AI Institute for Student-AI Teaming* Feb. 2022
- Institute of Cognitive Science Student Research Award** | *University of Colorado Boulder* July 2021
- LEGO® Idea Conference, Selected Cohort** | *Promise Venture Studios* Apr. 2019
- IQ 'Innovation Quotient' Award in Education** | *BizWest Media Colorado* Sept. 2018
- DEF CON Hacking Conference, Selected Cohort** | *Women in Security and Privacy* Aug. 2018
- Catalyze CU Venture Accelerator, Selected Cohort** | *University of Colorado Boulder* Summer 2018
- Outstanding PhD Research Award** | *University of Colorado Boulder* Spring 2018
- 2nd Prize, Alexa Skills Hackathon** | *GlueCON Developer's Conference* May 2018
- 2nd Prize, Student Design Competition** | *ACM Conference on Human Robot Interaction* March 2018

Community Work

- Literacy and Artificial Intelligence Cohort** | *AI CIRCLS* May 2022 – Present
- AI Ethics in Early Childhood, Working Group** | *National Head Start Association* 2019 – Present
- Antiracism & Inclusion Hiring Committee** | *University of Colorado Boulder Engineering* 2020 – 2021
- Volunteer Substitute Preschool Teacher** | *Children's House Preschool* 2017 – 2021
- Guardian Scholar STEM Mentor for Former Foster Youth** | *University of Colorado Boulder* 2013 – 2021
- Ecosystem Mentor** | *Futurebound Colorado, Early Childhood Innovation Ecosystem* 2019 – 2020
- Hackathon Mentor** | *T9 Hacks for Early Childhood Development* 2020
- Innovation Mentor** | *OpenIDEO, Early Childhood Innovation Network* 2018

Skills

Approaches: Human Centered Design Cycle, Iterative Design Thinking, Personas, Scenarios, User Stories, Storyboarding
Prototyping: Minimum Viable Product Development, Paper Prototyping, Rapid Prototyping, Wizard of Oz Protocol
Evaluation: Usability Testing, Playtesting, Semi-Structured Interviewing, Contextual Inquiry, Think-Aloud Protocol
Analytics: Affinity Diagramming, Thematic Analysis, Content Analysis, Interaction Analysis, Skills Assessments