

Elizabeth H. Childs

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Education

Stanford University

PhD in Mechanical Engineering (GPA 3.9/4.0)

Knight Hennessy Scholar (Three Year Leadership Fellowship)

Impact Labs PhD Fellowship (Fellowship for solutions-oriented research)

MA in Education

Stanford, CA

Expected May 2027

Expected May 2026

University of Maryland, College Park

B.S. Mechanical Engineering (GPA 4.0/4.0)

Banneker Key Scholar (Full Scholarship)

College Park, MD

Aug 2016 – Dec 2020

Human-Computer Interaction / Extended Reality Experience

Stanford University

Interaction and Design Lab & CHARM Lab

Advisor: Prof. James Landay, Prof. Allison Okamura

Augmented Reality for Democratizing Education

Stanford, CA

June 2021 – Present

Microsoft Research

Researcher, Future Experiences Group

Created a tangible haptic robot and physic simulation application to render force feedback to learn physics (electromagnetism, gravity, aerodynamics, etc.).

Redmond, CA

June 2026 – Sep 2026

Dolby Laboratories

Researcher, Advanced Technology Group

Investigated immersive technology for learning

Sunnyvale, CA

May 2024 – Aug 2024

Lam Research Corporation

Mechanical Engineer, Global Products Engineering

Designed HoloLens applications for visualizing industrial robots

Created UX applications to visualize and diagnose robot errors

Fremont, CA

May 2021 – Aug 2021

University of Maryland, College Park

Geometric Algorithms for Modeling, Motion, and Animation

Laboratory

Advisor: Prof. Dinesh Manocha

Telepresence in Virtual Reality

College Park, MD

Aug 2020 – Aug 2021

Publications

Conference Publications

1. A. Cheng, J. Ritchie, N. Agrawal, E. Childs, C. DeVaux, Y. Jee, T. Leon, B. Maples, A. Cuadra, J. Landay, “Designing Immersive, Narrative-Based Interfaces to Guide Outdoor Learning,” *Human-Computer Interaction Conference (ACM CHI)*, 2023.
2. U. Bhattacharya, E. Childs, D. Manocha et al., “Speech2AffectiveGestures: Synthesizing Co-Speech Gestures with Generative Adversarial Affective Expression Learning,” *ACM International Conference on Multimedia (ACMMM)*, 2021.

Journal Publications

1. E. Childs,* F. Mohammad,* L. Stevens*, D. Manocha et al., “An Overview of Enhancing Distance Learning Through Augmented and Virtual Reality Technologies,” *IEEE Transactions on Visualization and Computer Graphics*, 2024. (*Equal contribution; listed alphabetically.)
2. E.H. Childs, A.V. Latchman, R.D. Sochol et al., “Additive Assembly for PolyJet-Based Multi-Material 3D Printed Microfluidics,” *Journal of Microelectromechanical Systems*, 2020.

Presentations / Panels

Human-Computer Interaction Conference (ACM CHI) <i>Hosted workshop on Purposeful XR: Affordances, Challenges, and Speculations for an Ethical Future</i>	<i>Yokohama, Japan</i> <i>April 2025</i>
Augmented World Expo <i>Panelist, The Educational Rift in Spatial Reasoning</i>	<i>Long Beach, CA</i> <i>June 2024</i>
Stanford XR Conference <i>Panel Moderator, XR in Education</i> <i>Demonstration, Mobile AR Learning</i>	<i>Stanford, CA</i> <i>May 2023</i> <i>May 2022</i>

Robotics / Mechanical Engineering Experience

University of Maryland, College Park <i>Bioinspired Advanced Manufacturing (BAM) Laboratory</i> <u>Advisor</u> : Prof. Ryan D. Sochol PolyJet 3D Printing for Microfluidic Applications	<i>College Park, MD</i> <i>Sept 2018 – July 2020</i>
Robotics Realization Lab <u>Advisor</u> : Prof. Sarah Bergbreiter Soft Robotics to Model the Human Hand	<i>Jan 2017 – May 2018</i>
Bioinspired Robotics Designed robot inspired by somersaulting Moroccan Spider	<i>Feb 2019 – May 2019</i>
Institute of Technology of Cambodia <i>International Research Experience for Students, Cambodia</i> Sponsor : National Science Foundation <u>Advisor</u> : Prof. Garrett Clayton Modular Robotics for Explosive Ordnance Disposal in Cambodia	<i>Phnom Penh, Cambodia</i> <i>June 2019 – Aug 2019</i>
Oregon State University, Corvallis <i>Dynamic Robotics Laboratory</i> Sponsor : National Science Foundation <u>Advisor</u> : Prof. Jonathan Hurst Impact Absorption in Dynamic Walking Robots	<i>Corvallis, OR</i> <i>June 2018 – Aug 2018</i>
Key Technologies, Inc <i>Mechanical Engineer, Medical Technology Engineering Consulting</i> Designed, manufactured, and tested for consumer products and medical devices	<i>Baltimore, MD</i> <i>Sept 2019 – Dec 2019</i>

Technical Skills

SolidWorks | Machine Learning | C++ | C# | Maya | Computer Vision | Unity | D3 | 3D Printing | PDMS (Silicone) Molding | CNC Machining | Reinforcement Learning | Graphics