Elizabeth H. Childs

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Education

Stanford University *Stanford, CA*
PhD in Mechanical Engineering *Expected May 2027*
Knight Hennessy Scholar (Three Year Leadership Fellowship)
Impact Labs PhD Fellowship (Fellowship for solutions-oriented research)

MA in Education *Expected May 2026*

University of Maryland, College Park *College Park, MD*
B.S. Mechanical Engineering *Aug 2016 – Dec 2020*
Banneker Key Scholar (Full Scholarship)

Human-Computer Interaction / Extended Reality Experience

Stanford University *Stanford, CA*
Interaction and Design Lab & CHARM Lab *June 2021 – Present*
Advisor: Prof. James Landay, Prof. Allison Okamura
Augmented Reality for Democratizing Education

Dolby Laboratories *Sunnyvale, CA*
Researcher, Advanced Technology Group *May 2024 – Aug 2024*
Investigated immersive technology for learning

Lam Research Corporation *Fremont, CA*
Mechanical Engineer, Global Products Engineering *May 2021 – Aug 2021*
Designed HoloLens applications for visualizing industrial robots
Created UX applications to visualize and diagnose robot errors

University of Maryland, College Park *College Park, MD*
Geometric Algorithms for Modeling, Motion, and Animation
Laboratory *Aug 2020 – Aug 2021*
Advisor: Prof. Dinesh Manocha
Telepresence in Virtual Reality

Publications

Conference Publications

1. E. Childs, J. E, A. Okamura, J. Landay, "Centering Teachers' Voices Design Guidelines for High School Laboratory Technologies," (submitted).

2. E. Childs, K. Her, A. Okamura, J. Landay, "Effects of Augmented Reality Enhancements on Students' Scientific Reasoning in an Introductory Physics Laboratory," (in preparation).

3. A. Cheng, J. Ritchie, N. Agrawal, E. Childs, C. DeVeaux, 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.

4. 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)	*Yokohama, Japan*
Hosted workshop on Purposeful XR: Affordances, Challenges, and Speculations for an Ethical Future	*April 2025*
Augmented World Expo	*Long Beach, CA*
Panelist, The Educational Rift in Spatial Reasoning	*June 2024*
Stanford XR Conference	*Stanford, CA*
Panel Moderator, XR in Education	*May 2023*
Demonstration, Mobile AR Learning	*May 2022*

Robotics / Mechanical Engineering Experience

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

Technical Skills

SolidWorks | Arduino | C++ | C# | Maya | Microsoft Office | Unity | D3 | FDM 3D Printing | PDMS (Silicone) Molding | CNC Machining