ELIZABETH H. CHILDS

Phone: (757) 275-4331 elchilds@stanford.edu

EDUCATION

STANFORD UNIVERSITY Stanford, CA

Doctor of Philosophy in Mechanical Engineering Expected May 2026

Knight Hennessy Scholar (Three Year Stanford Leadership Fellowship)

STANFORD UNIVERSITY Stanford, CA

Masters of Arts in Education Expected May 2024

UNIVERSITY OF MARYLAND, COLLEGE PARK

BS Mechanical Engineering | Entrepreneurship and Innovation Honors Program Aug 2016 – Dec 2020

College Park, MD

Aug 2020 – Aug 2021

Phnom Phenh, Cambodia June 2019 – Aug 2019

June 2018 – Aug 2018

GPA (Cumulative): 3.98/4.00

Banneker Key Scholar (Full Scholarship to the University of Maryland)

RESEARCH EXPERIENCE

STANFORD UNIVERSITY Stanford, CA

June 2021 – Present Interaction and Design Lab and CHARM Lab

Advisor: Prof. James Landay and Prof. Allison Okamura

• Augmented Reality for Democratizing Education

UNIVERSITY OF MARYLAND, COLLEGE PARK College Park, MD

Geometric Algorithms for Modeling, Motion, and Animation Laboratory

Advisor: Prof. Dinesh Manocha • Telepresence in Virtual Reality

UNIVERSITY OF MARYLAND, COLLEGE PARK

College Park, MD Sept 2018 – July 2020

Bioinspired Advanced Manufacturing (BAM) Laboratory Advisor: Prof. Ryan D. Sochol

• Additive Folding of PolyJet 3D Printed Components for Microfluidic Applications

International Research Experience for Students, Cambodia

Sponsor: National Science Foundation | Advisor: Prof. Garrett Clayton

INSTITUTE OF TECHNOLOGY OF CAMBODIA & VILLANOVA UNIVERSITY

• Modular Robotics for Explosive Ordnance Disposal in Cambodia

OREGON STATE UNIVERSITY, CORVALLIS Corvallis, OR

Dynamic Robotics Laboratory

Sponsor: National Science Foundation | Advisor: Prof. Jonathan Hurst

• Impact Absorption in Dynamic Walking Robots

UNIVERSITY OF MARYLAND, COLLEGE PARK College Park, MD

Robotics Realization Lab

• Soft Robotics to Model the Human Hand

Jan 2017 – May 2018 Advisor: Prof. Sarah Bergbreiter

JOURNAL PUBLICATIONS

1. E.H. Childs, A.V. Latchman, and R.D. Sochol et. al., "Additive Assembly for PolyJet-Based Multi-Material 3D Printed Microfluidics," Journal of Microelectromechanical Systems.

2. E. Childs,* F. Mohammad,* L. Stevens* and D. Manocha et al., "An Overview of Enhancing Distance Learning Through Augmented and Virtual Reality Technologies," IEEE Transactions of Visualization and Computer Graphics. *These authors contributed equally; listed alphabetically

CONFERENCE PUBLICATIONS

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

PRESENTATIONS / PANELS

STANFORD XR CONFERENCE	Stanford, CA
Panel Moderator, XR in Education	May 2023
Demonstration, Mobile AR Learning	May 2022

HONORS AND AWARDS

- NSF LSAMP Bridge Scholar
- Academic Achievement Award for highest GPA in Mechanical Engineering
- Amadas Industries Award Recognizing Aptitude for Success in Science, Engineering, and Technology
- National Academy of Engineering Grand Challenge | Advanced Health Informatics
 - o Awarded 1st Place for Grand Challenge Presentation & 1st Place for Overall Grand Challenge Novelty

ADDITIONAL ENGINEERING EXPERIENCE

ADDITIONAL ENGINEERING EXIENCE	
 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 2019
 UNIVERSITY OF MARYLAND, COLLEGE PARK Bioinspired Robotics Designed robot inspired by summersaulting Moroccan Spider 	College Park, MD Feb 2019 – May 2019
 KEY TECHNOLOGIES, INC Mechanical Engineer, <u>Medical Technology Engineering Consulting</u> Designed, manufactured, and tested for consumer products and medical device 	Baltimore, MD Sept 2019 – Dec 2019
University of Maryland, College Park Consultant, <i>Quality Enhancement Systems and Teams (Quest)</i> Sponsor: Unites States African Development Foundation (USADF) • Consulted for farming cooperative startup in the DRC	College Park, MD Oct 2018 – Dec 2018
 GENERAL ELECTRIC AVIATION Process Engineer, <u>MAD Coating</u> / Vapor Phase Aluminide (VPA) Coating Designed rework programs for turbine blade coating to improve efficiency by over 100% 	Madisonville, KY June 2017 – Aug 2017

TECHNICAL SKILLS

- **Engineering Software:** SolidWorks | Arduino Programming | MATLAB | Engineering Equation Solver | C++ | Processing | Creo | NX | Maya | Microsoft Office | Unity | D3
- Manufacturing: FDM 3D Printing | Dremel | Belt Sander | Band Saw | Jigsaw | Laser Cutter | Stratasys Objet500 Connex3 (Polyjet 3D Printing) | PDMS (Silicone) Molding