

# HIMANI DESHPANDE

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## RESEARCH INTERESTS

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**Digital Fabrication, Hybrid Fabrication, Maker Culture, Sustainability, Tangible & Embodied Interactions.**

I design novel fabrication tools and techniques that leverage different materials' computational properties for function and expressivity.

## EDUCATION

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**Texas A&M University**, College Station TX

Ph.D. Computer Science

2020 - Present

Advisor: Dr. Jeeun Kim

**Georgia Institute of Technology**, Atlanta GA

Master's in Industrial Design

2017 - 2020

Advisor: Dr. Hyunjo Oh

**Pune Institute of Computer Technology**, Maharashtra, India

Bachelor of Engineering (Computer)

2012 - 2016

## PUBLICATIONS

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**Unmake to Remake: Materiality-driven Rapid Prototyping**

[Himani Deshpande](#), Haruki Takahashi, Jeeun Kim. ACM Transactions on Computer-Human Interaction. August 2024

**Reconfigurable Interfaces by Shape Change and Embedded Magnets**

[Himani Deshpande](#), Han Bo, Kongpyung (Justin) Moon, Andrea Bianchi, Clement Zheng, Jeeun Kim. Proceedings of the CHI Conference on Human Factors in Computing Systems. 2024.

**Sustainable Unmaking: Designing for Biodegradation, Decay, and Disassembly**

Katherine W. Song, Fiona Bell, [Himani Deshpande](#), Ilan Mandel, Tiffany Wun, Mirela Alistar, Leah Buechley, Wendy Ju, Jeeun Kim, Eric Paulos, Samar Sabie, Ron Wakkary. Extended Abstracts of the CHI Conference on Human Factors in Computing Systems. 2024.

**Tuning Mechanical Properties of 3D Printed Composites with PLA:TPU Programmable Filaments**

Aryabhat Darnal, Zaryab Shahid, [Himani Deshpande](#), Jeeun Kim, and Anastasia Muliana. 2023.

Composite Structures, Volume 318, ISSN 0263-8223. <https://doi.org/10.1016/j.compstruct.2023.117075>

**Hands-on Exploration of Hybrid 4D Printing Design Space.**

[Himani Deshpande](#), Courtney Starrett, Jinsil Hwaryoung Seo, Clement Zheng, and Jeeun Kim. In ACM SIGGRAPH 2022 Labs, pp. 1-2. 2022.

**Fab4D: An Accessible Hybrid Approach for Programmable Shaping and Shape Changing Artifacts.**

[Himani Deshpande](#), Clement Zheng, Courtney Starrett, Jinsil Hwaryoung Seo, and Jeeun Kim. In Sixteenth International Conference on Tangible, Embedded, and Embodied Interaction, pp. 1-7. 2022.

**Multi-ttatch: Techniques to Enhance Multi-material Attachments in Low-cost FDM 3D Printing.**

Nahyun Kwon \*, [Himani Deshpande](#) \*, Md Kamrul Hasan, Aryabhat Darnal, and Jeeun Kim. In Symposium on Computational Fabrication, pp. 1-16. 2021.

**EscapeLoom: Fabricating New Affordances for Hand Weaving.**

[Himani Deshpande](#), Haruki Takahashi, and Jeeun Kim. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems, pp. 1-13. 2021.

**Upcycling discarded HDPE plastic bags for creative exploration in product design.**

[Himani Deshpande](#), Jin Yu, Akash Talyan, Noah Posner, Clement Zheng, and Hyunjo Oh. DRS2022: Bilbao 25 (2022).

## SKILLS/TOOLS

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SolidWorks, Rhino/Grasshopper, Fusion360, C++/Python/Java, Arduino prototyping, Adobe Illustrator/InDesign/Photoshop/AfterEffects, G-Code, Human Factors, FDM 3D Printing

## PROJECTS IN PROGRESS

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### Optical Path Printing

We are studying the light relaying properties of transparent FDM materials, extracting controllable parameters, and developing a user-facing tool to design various applications in displays, information transfer, sensors, etc.

### Design for Disassembly

We are exploring material degradation as an inbuilt property to design the breakage of fabricated objects with focus on reuse, sustainability, and the process of unmaking within making.

## WORK EXPERIENCE

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### Graduate Research Assistant

HCIED Lab, Texas A&M University

Summer 2020 - Present

For Dr. Jeeun Kim

### Associate Principal (Intern)

Accenture Labs, USA

Summer 2024

### Senior Grader

Cybersecurity Law and Policy, CSCE 402/702

Fall 2021

For Dr. Paula DeWitte

### Graduate Research Assistant

CoDeCraft Group, Georgia Institute of Technology

Summer 2019 - Spring 2020

For Dr. Hyunjoo Oh

### Design Intern

Lokus Design, Pune, India

Summer 2018

## TEACHING EXPERIENCE

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### Graduate Teaching Assistant

Computer Human Interaction, CSCE 436

Fall 2024

For Dr. Michael Moore

### Graduate Teaching Assistant

Introduction to Program Design, CSCE 121

Spring 2022, Summer 2022, Fall 2023

For Dr. Michael Moore

### Workshop Lead

4D Printing Workshops

TEES Spark! PK-12 Engineering Education Outreach Science Summer Camp

June 2021

E3 program July 2021

UTSW STARS TAMU Engineering Research Symposium October 2021

### Graduate Teaching Assistant

Introduction to Smart Product Design, ID 2510

Spring 2019

For Dr. Wei Wang

### Mentor

Interactive Product Design Lab, Georgia Tech

Fall 2018 - Spring 2020

### Assistant

Paper Mechatronics Workshops

GoSTEAM March 2019

CEISMC PaperMechatronics Workshops June 2019

## SERVICE AND OTHER ACTIVITIES

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### Program Committee : TEI 2025

### Peer Reviewer

DIS 2022 (paper), CHI 2022 (paper), C&C 2021 (poster), DIS 2021 (pictorial), CHI 2021 (late-breaking work), TEI 2021 (paper), DIS 2023 (paper, pictorial), UIST 2023 (paper), CHI 2024 (paper), UIST 2024 (paper), CHI 2025 (paper)

### Presented poster at CRA-WP Workshop

April 2023

### Director of Mentoring

Indian Graduate Student Association (IGSA TAMU)

2021-2022

### Senior Director of Mentoring

Indian Graduate Student Association (IGSA TAMU)

2022-2023