

# Catherine Yeh

CS PHD CANDIDATE · HARVARD UNIVERSITY

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## Education

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### Harvard University

PH.D. IN COMPUTER SCIENCE WITH MASTERS IN PASSING

Boston, MA

2022 - present

Advisors: Martin Wattenberg, Fernanda Viégas

Research Interests: Visualization, Interpretability, Human-AI Interaction

### Williams College

B.A. IN COMPUTER SCIENCE & COGNITIVE SCIENCE

Williamstown, MA

2018 - 2022

Advisor: Iris Howley – Thesis: [Toward an Empirical Framework for Post-hoc Explainable AI](#)

Graduated Summa Cum Laude (top 2% of class) with Highest Honors in Computer Science

## Research Experience

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### Industry

#### Google DeepMind

Mountain View, CA

Summer 2026

INCOMING STUDENT RESEARCHER

#### Adobe Research – STORIE Lab

Seattle, WA

Summer 2025

RESEARCH SCIENTIST INTERN

Mentors: Bryan Wang, Anh Truong, Mira Dontcheva

Designed a video authoring tool to help creators craft compelling video stories by blending captured and generative media.

#### Apple Research – Human-Centered Machine Intelligence Group

Seattle, WA

Summer 2024

RESEARCH INTERN

Mentors: Fred Hohman, Donghao Ren, Yannick Assogba, Dominik Moritz

Developed a visual, human-in-the-loop data augmentation tool for increasing data diversity in text datasets (C3).

#### Microsoft Research – Human Understanding & Empathy Group

Redmond, WA

Summer 2023

RESEARCH INTERN

Mentors: Gonzalo Ramos, Rachel Ng

Designed a personalized environment to preserve agency and ownership while writing with large language models (P1).

#### Adobe Research – Media Intelligence Lab

San Jose, CA

Summer 2022

RESEARCH SCIENTIST INTERN

Mentors: Franck Dernoncourt, Nedim Lipka

Developed prototypes showcasing vision for the next-gen document reader (W2).

#### Microsoft Research – Productivity & Intelligence Group

Redmond, WA

Summer 2021

RESEARCH INTERN

Mentors: Jenna Butler, Christian Bird

Built self-reflection chatbot and personalized dashboards for studying hybrid workforce productivity and well-being (O1).

### Academic

#### Harvard University – Insight & Interaction Lab

Boston, MA

2022 - present

GRADUATE RESEARCH ASSISTANT

Advisors: Martin Wattenberg, Fernanda Viégas

Designing visualization-driven interfaces and techniques to support model interpretability and enable more productive, safe, and creative human-AI interactions (C5, C4, C2, W3).

## **Williams College – Computation<sup>2</sup> Lab**

UNDERGRADUATE RESEARCH ASSISTANT

Advisor: Molly Feldman

Studied and developed guidelines for replicability in human-computer interaction research.

Williamstown, MA

2021-2022

## **Williams College – Human-AI Interaction Lab**

UNDERGRADUATE RESEARCH ASSISTANT

Advisor: Iris Howley

Studied knowledge tracing algorithms and developed a novel, evidence-based framework for explainable AI (C1, W1).

Williamstown, MA

2019-2022

## **Williams College – Concepts & Categories Lab**

UNDERGRADUATE RESEARCH ASSISTANT

Advisor: Safa Zaki

Designed eye-tracking experiments to study cognitive learning strategies in categorization tasks.

Williamstown, MA

2018-2019

# **Publications**

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Conference \*denotes equal contribution

### **C5 Story Ribbons: Reimagining Storyline Visualizations with Large Language Models**

Catherine Yeh, Tara Menon, Robin Singh Arya, Helen He, Moira Weigel, Fernanda Viégas, Martin Wattenberg  
*IEEE Visualization Conference (VIS), 2025.*

[Paper](#) ·  Best Paper Honorable Mention

### **C4 Chronotome: Real-Time Topic Modeling for Streaming Embedding Spaces**

Matte Lim\*, Catherine Yeh\*, Martin Wattenberg, Fernanda Viégas, Panagiotis Michalatos  
*IEEE Visualization Conference (VIS), 2025.*

[Paper](#) ·  Best Paper Honorable Mention

### **C3 Exploring Empty Spaces: Human-in-the-Loop Data Augmentation**

Catherine Yeh, Donghao Ren, Yannick Assogba, Dominik Moritz, Fred Hohman  
*ACM Conference on Human Factors in Computing Systems (CHI), 2025.*

[Paper](#) ·  Best Paper Honorable Mention

### **C2 AttentionViz: A Global View of Transformer Attention**

Catherine Yeh, Yida Chen, Aoyu Wu, Cynthia Chen, Fernanda Viégas, Martin Wattenberg  
*IEEE Visualization Conference (VIS), 2023.*

[Paper](#)

### **C1 Designing for Student Understanding of Learning Analytics Algorithms**

Catherine Yeh, Noah Cowit, Iris Howley  
*International Conference on Artificial Intelligence in Education (AIED), 2023.*

[Paper](#)

## Workshop

### **W3 What Kind of User Are You? Uncovering User Models in LLM Chatbots**

Yida Chen, Aoyu Wu, Trevor DePodesta, Catherine Yeh, Lena Armstrong, Kenneth Li, Nicholas Castillo Marin, Oam Patel, Jan Riecke, Shivam Raval, Olivia Seow, Martin Wattenberg, Fernanda Viégas  
*ICML Actionable Interpretability Workshop (AIW), 2025*

[Paper](#)

### **W2 Envisioning the Next-Gen Document Reader**

Catherine Yeh, Franck Dernoncourt, Nedim Lipka  
*AAAI Workshop on Scientific Document Understanding (SDU), 2023.*

[Paper](#)

### **W1 Tests, Memory, and Artificial Intelligence: How Can We Know What People Know?**

Noah Cowit, Catherine Yeh, Iris Howley  
*IEEE VIS Workshop on Visualization for AI Explainability (VISxAI), 2019.*

## Other

## O1 **Walk a Mile in Their Shoes: The Covid Pandemic Through the Lens of Four Tech Workers**

Jenna Butler, Catherine Yeh

*Communications of the ACM & ACM Queue, 2022.*

[Paper](#) · [Paper 2](#)

Preprint

## P1 **GhostWriter: Augmenting Collaborative Human-AI Writing Experiences Through Personalization and Agency**

Catherine Yeh, Gonzalo Ramos, Rachel Ng, Andy Huntington, Richard Banks

[Paper](#)

## Patents

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Video Sequencing and Gap Detection for Authoring Videos Including Captured and Generated Content

*Application Filed*

[Generative Neural Network Model Style Guide Management](#), US Patent App. 18400715

*August 2025*

## Invited Talks & Panels

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Crash Course on Securing PhD Research Internships, Harvard University Computer Science Department

*November 2025*

Principles of Data Visualization, Carnegie Mellon University Language Technologies Institute

*June 2025*

Exploring Empty Spaces: Human-in-the-Loop Data Augmentation, Apple Research Machine Learning Summit

*March 2025*

Panel on Effective Research Practices for PhD Students, Harvard University Computer Science Department

*February 2025*

## Honors & Awards

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- 2025 Best Paper Honorable Mention (x2), IEEE VIS  
Best Paper Honorable Mention, ACM CHI  
Graduate Collegiate Award Finalist, NCWIT  
10 Under 10 Outstanding Alumni Award Recipient, The Overlake School
- 2024 Graduate Research Fellowship Recipient, NSF  
Graduate Fellowship Recipient, Kempner Institute
- 2022 Inductee, Sigma Xi International Scientific Research Honor Society  
Outstanding Undergraduate Researcher Award Runner Up, CRA
- 2021 Undergraduate Collegiate Award Finalist, NCWIT  
Women-in-Technology Scholarship Finalist, Adobe Research  
Junior Year Inductee (top 5% of class), Phi Beta Kappa National Honor Society  
ACM Student Research Competition Finalist, Grace Hopper Conference  
Ward Prize Finalist, Williams College
- 2019 Computer Science Class of 1960s Scholar (2019 - 2022), Williams College  
3rd Place Winner, National USCLAP Statistics Competition  
Summer Science Research Fellowship Recipient, Williams College  
Scholarship Recipient, Grace Hopper Conference
- 2018 Dean's List (2018 - 2022), Williams College

## Other Industry Experience

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## **Oracle Cloud Infrastructure (OCI)**

SOFTWARE ENGINEER INTERN

Built dashboard and visual database for regional compliance programs.

Seattle, WA

Summer 2020

## **Sunshine**

SOFTWARE ENGINEER INTERN

Created dashboard for AI-driven consumer app.

Palo Alto, CA

Winter 2020

## **Teaching Experience**

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**CS279R: Research Topics in Human-Computer Interaction**, Harvard University

*Fall 2023*

**CSCI 334: Principles of Programming Languages**, Williams College

*Spring 2022, Fall 2021, Spring 2021*

**CSCI 315: Computational Biology**, Williams College

*Fall 2021*

**CSCI 256: Algorithm Design & Analysis**, Williams College

*Spring 2020*

**CSCI 136: Data Structures & Advanced Programming**, Williams College

*Fall 2020, Fall 2019, Spring 2019*

## **Mentoring**

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### Research

**Helen He '26**, Harvard University

*Spring 2025 – LLM-Augmented Storyline Visualizations*

**Vicki Xu '23**, Harvard University

*Fall 2023 - Logit Lens on Vision Transformer*

**Cynthia Chen '24**, Harvard University

*Spring 2023 – Visualizations for Transformer Interpretability*

### Other

**VISBuddies Mentor**, IEEE VIS

*2025 - present*

**SEAS Research Program Mentor**, Harvard University

*2024 - present*

**Women in STEM Mentor**, Harvard University

*2022 - present*

**Underrepresented Identities in CS Mentor**, Williams College

*2020 - 2022*

## **Service**

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### Organizer

**IEEE VIS Workshop on Visualization for AI Explainability (VISxAI)** – 2026, 2025

**IEEE VIS Workshop on GenAI, Agents, and the Future of VIS (VISxGenAI)** – 2025

### Program Committee

**IEEE VIS Workshop on Visualization for Communication (VisComm)** – 2025

**IEEE VIS Workshop on Visualization for AI Explainability (VISxAI)** – 2024

Reviewer \* indicates outstanding review recognition

### Conference

- IEEE Eurographics Conference on Visualization (EuroVis) – 2026
- IEEE Pacific Visualization Conference (PacificVis) – 2026
- IEEE Visualization Conference (VIS) – 2025
- ACM Conference on Human Factors in Computing Systems (CHI) – 2025\*, 2026\*
- ACM Conference on Designing Interactive Systems (DIS) – 2024

### Journal

- Journal of Visualization and Interaction (JoVI) – 2025
- ACM Transactions on Intelligent Systems and Technology (TIST) – 2024

### Volunteer

- IEEE VIS Student Volunteer – 2023

### Misc

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[Art Portfolio](#)