

# Catherine Yeh

CS PHD CANDIDATE · HARVARD UNIVERSITY

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## Education

### Harvard University

Boston, MA

PH.D. IN COMPUTER SCIENCE WITH MASTERS IN PASSING

2022 - present

Advisors: Martin Wattenberg, Fernanda Viégas

Research Interests: Visualization, Interpretability, Human-AI Interaction

### Williams College

Williamstown, MA

B.A. IN COMPUTER SCIENCE & COGNITIVE SCIENCE

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

### Industry

#### Adobe Research – STORIE Lab

Seattle, WA

RESEARCH SCIENTIST INTERN

Summer 2025

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

RESEARCH INTERN

Summer 2024

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.

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

Redmond, WA

RESEARCH INTERN

Summer 2023

Mentors: Gonzalo Ramos, Rachel Ng

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

#### Adobe Research – Media Intelligence Lab

San Jose, CA

RESEARCH SCIENTIST INTERN

Summer 2022

Mentors: Franck Dernoncourt, Nedim Lipka

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

#### Microsoft Research – Productivity & Intelligence Group

Redmond, WA

RESEARCH INTERN

Summer 2021

Mentors: Jenna Butler, Christian Bird

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

### Academic

#### Harvard University – Insight & Interaction Lab

Boston, MA

GRADUATE RESEARCH ASSISTANT

2022 - present

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.

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

Williamstown, MA

UNDERGRADUATE RESEARCH ASSISTANT

2021-2022

Advisor: Molly Feldman

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

## 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.

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](#)

Invited Talks & Panels

Crash Course on Securing Internships as a PhD Student, 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

- 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

Oracle Cloud Infrastructure (OCI)

SOFTWARE ENGINEER INTERN

Built dashboard and visual database for regional compliance programs.

Sunshine

SOFTWARE ENGINEER INTERN

Created dashboard for AI-driven consumer app.

Seattle, WA

Summer 2020

Palo Alto, CA

Winter 2020

Teaching Experience

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) – 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 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