

## OVERVIEW

*My research sits at the intersection of HCI, AI, and Cognitive Psychology. I design, build, and evaluate interactive intelligent systems for human-critical domains, including human learning, creativity, and visual sensemaking. I also develop tools and methods for designing ethical and responsible AI applications.*

## EDUCATION

2021

**University of Michigan, Ann Arbor, MI**

Ph.D. in Information

Advisor: Eytan Adar

Committee: Eytan Adar (Chair), Colleen Seifert, Steven Drucker, Steve Oney

Dissertation: *Designing AI Experiences: Boundary Representations, Collaborative Processes, and Data Tools*

2015

**University of Michigan, Ann Arbor, MI**

M.S. in Information (Human Computer Interaction)

2008

**CMR Institute of Technology, Bengaluru, India**

B.E. Telecommunication

## PROFESSIONAL EXPERIENCE

September 2021 - Present

**Stanford Graduate School of Education | Stanford Computer Science (by courtesy)**  
Assistant Professor (Research)

September 2021 - Present

**Stanford Human-Centered Artificial Intelligence Institute**  
Ram and Vijay Shriram Faculty Fellow

Summer 2020

**Microsoft Research, New York, NY**

Research Intern – Fairness, Accountability, Transparency, and Ethics in AI

*Mentors: Jenn Wortman Vaughan, Hanna Wallach*

Fall 2017

**Adobe Research, Seattle, WA**

Research Intern – Creative Intelligence Lab

*Mentors: Mira Dontcheva, Wilmot Li*

Summer 2016

**Microsoft Research, Redmond, WA**

Research Intern – Visualization and Interaction for Business and Entertainment

*Mentors: Steven Drucker, Curtis Wong*

- Summer 2015 **Xerox PARC, Palo Alto, CA**  
Research Intern – Interactive Intelligence Lab  
*Mentor: Ashwin Ram*
- 2011 – 2013 **Schneider Electric, Bengaluru, India**  
Senior Software Developer – Human Machine Interfaces
- 2008 – 2011 **SUNGARD, Bengaluru, India**  
Software Developer – Workflow Management

## AWARDS AND HONORS

- 2021 IUI Best Paper Award [C.7]
- 2020 CHI Best Paper Award [C.5]
- 2019 CHI Best Paper Award [C.3]
- 2015 CHI Student Design Competition 3<sup>rd</sup> Place

## PEER-REVIEWED PUBLICATIONS

- CONFERENCE PAPERS
- C.13 Steven Moore, Q. Vera Liao, **Hariharan Subramonyam**.2023. fAllureNotes: Supporting Designers in Understanding the Limits of AI Models for Computer Vision Tasks. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems.
- C.12 Q. Vera Liao, **Hariharan Subramonyam**, Jennifer Wang, & Jennifer Wortman Vaughan. Designerly Understanding: Information Needs for Model Transparency to Support Design Ideation for AI-Powered User Experience. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems.
- C.11 **Hariharan Subramonyam**, Eytan Adar, and Steven Drucker. 2022. Composites: A Tangible Interaction Paradigm for Visual Data Analysis in Design Practice. In Proceedings of 2022 Conference on Advanced Visual Interfaces.
- C.10 **Hariharan Subramonyam**, Jane Im, Colleen Seifert, and Eytan Adar. 2022. Solving Separation-of-Concerns Problems in Collaborative Design of Human-AI Systems through Leaky Abstractions. In Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems.
- C.9 Rima Cao, **Hariharan Subramonyam**, and Eytan Adar. 2022. VideoSticker: A Tool for Active Viewing and Visual Note-taking from Videos. In 27th International Conference on Intelligent User Interfaces.

C.8 Michael Madaio, Lisa Egede, **Hariharan Subramonyam**, Jenn Wortman Vaughan, and Hanna Wallach. 2022. Assessing the Fairness of AI Systems: AI Practitioners' Processes, Challenges, and Needs for Support. The 25th ACM Conference On Computer-Supported Cooperative Work And Social Computing.

 C.7 **Hariharan Subramonyam**, Colleen Seifert, and Eytan Adar. 2021. ProtoAI: Model-Informed Prototyping for AI-Powered Applications. In 26th International Conference on Intelligent User Interfaces.

C.6 **Hariharan Subramonyam**, Colleen Seifert, and Eytan Adar. 2021. Towards A Process Model for Co-Creating AI Experiences. In proceedings of Designing Interactive Systems Conference 2021.

 C.5 **Hariharan Subramonyam**, Colleen Seifert, Priti Shah, and Eytan Adar. 2020. texSketch: Active Diagramming through Pen-and-Ink Annotations. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems.

C.4 Maulishree Pandey, **Hariharan Subramonyam**, Brooke Sasia, Steve Oney, Sile O'Modhrain. 2020. Explore, Create, Annotate: Designing Digital Drawing Tools with Visually Impaired People. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems

 C.3 **Hariharan Subramonyam**, Steven M. Drucker, and Eytan Adar. 2019. Affinity Lens: Data-Assisted Affinity Diagramming with Augmented Reality. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19). ACM, New York, NY, USA.

C.2 **Hariharan Subramonyam**, Wilmot Li, Eytan Adar, and Mira Dontcheva. 2018. TakeToons: Script driven Performance Animation. In Proceedings of the 31st Annual ACM Symposium on User Interface Software and Technology (UIST '18). ACM, New York, NY, USA.

C.1 Joyojeet Pal, Anandhi Viswanathan, Priyank Chandra, Anisha Nazareth, Vaishnav Kameswaran, **Hariharan Subramonyam**, Aditya Johri, Mark S. Ackerman, and Sile O'Modhrain. 2017. Agency in Assistive Technology Adoption: Visual Impairment and Smartphone Use in Bangalore. In Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17). ACM, New York, NY, USA.

JOURNAL  
ARTICLES

J.3 Mantri, Prateek, **Hariharan Subramonyam**, Audrey L. Michal, and Cindy Xiong. "How Do Viewers Synthesize Conflicting Information from Data Visualizations?" IEEE Transactions on Visualization and Computer Graphics, 2022

J.2 **Hariharan Subramonyam**, Eytan Adar. 2019. SmartCues: A Multitouch Query Approach for Details-on-Demand through Dynamically Computed Overlays. In IEEE Transactions on Visualization and Computer Graphics, vol. 25, no. 1, pp. 597-607, Jan. 2019.

J.1 Brazel, David, Robin Corley, Chanda Phelan, Maia Frieser, **Hariharan Subramonyam**, Sally-Ann Rhea, Helen Vernier, John Hewitt, Paul Resnick, and Scott Vrieze. "The application of ecological momentary assessment and geolocation to a longitudinal twin study of substance use." In BEHAVIOR GENETICS, vol. 47, no. 6, pp. 676-677. 233 Spring St. New York, NY, USA: SPRINGER, 2017.

#### DOCTORAL CONSORTIUM

D.1 **Hariharan Subramonyam**. (2019, October). Designing Interactive Intelligent Systems for Human Learning, Creativity, and Sensemaking. In the Adjunct Publication of the 32nd Annual ACM Symposium on User Interface Software and Technology, pp 158–161. Association for Computing Machinery, New York, NY, USA.

#### WORKSHOPS AND POSTERS

P.5 **Hariharan Subramonyam**, Colleen Seifert, and Eytan Adar. 2022. ProtoAI: Model-Informed Prototyping for AI-Powered Applications- Extended Abstract. In 26th International Conference on Intelligent User Interfaces. **Best Paper Track at IJACI-ECAI 2022**.

P.4 **Hariharan Subramonyam**, Colleen Seifert, and Eytan Adar. 2021. *How Can Human-Centered Design Shape Data-Centric AI?* In Human Centered AI Workshop at NeurIPS.

P.3 **Hariharan Subramonyam**, Bongshin Lee, Sile O'Modhrain, and Eytan Adar. 2017. Data dialog: facilitating collaborative decision making through data-driven conversations. In Proceedings of the 11th EAI International Conference on Pervasive Computing Technologies for Healthcare (PervasiveHealth '17). ACM, New York, NY, USA.

P.2 **Hariharan Subramonyam**, Yuncheng Shen, and Samantha Lauren Jones. 2015. SIGCHI: Enabling Context for Traditional Chinese Paintings with "Rice Paper". In Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA '15). ACM, New York, NY, USA, 49-54

P.1 **Hariharan Subramonyam**. 2015. SIGCHI: Magic Mirror - Embodied Interactions for the Quantified Self. In Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA '15). ACM, New York, NY, USA, 1699-1704.

## PATENTS

2020 Hariharan Subramonyam, Eytan Adar, Lubomira Assenova Dontcheva, and Wilmot Wei-Mau Li. "Animation production system." U.S. Patent 10,546,409 issued January 28, 2020.

## GRANTS AND GIFTS

2023	G.7 Authoring Interactive Simulations with Generative AI for Culturally Sustaining Pedagogy PI with Maneesh Agrawala, Nick Haber, Shima Salehi, and Roy Pea	100,000
2023	G.6 NSF-RETTL Pair Programming with Intelligent Social Agents Co-PI with Nick Haber and Roy Pea	850,000
2023	G.5 Collaborative Designing of Generative AI Applications [Google Gift]	30,000
2023	G.4 Stanford HAI Seed Grant: AI-Augmented Reading Experiences for Data Journalism Co-PI with Maneesh Agrawala	75,000
2023	G.3 NSF AI Institute for Exceptional Education Co-PI with Maneesh Agrawala and Nick Haber	1,875,000
2022	G.2 Automated Generation and Visualization of Boundary Objects in Data-Centric AI Workflows. [IBM-HAI Research Token] PI	\$115,000
2021	G.1 Ethical, Responsible, and Human-Centered Data for Machine Learning Software Development. [EST Seed Grant] PI with Mitchell Stevens, Michael Bernstein, Neel Guha, Katie Creel, and Diana Acosta-Navas	\$25,000

## TEACHING EXPERIENCE

Winter 2023	CS 448B: Data Visualization Instructor
Winter 2023	EDUC 432: Designing Explorable Explanations for Learning Instructor
Spring 2022	EDUC 432: Designing Explorable Explanations for Learning Instructor
Fall 2018	SI 649: Information Visualization at UMSI Graduate Student Instructor
Fall 2016	SI 482: Interaction Design at UMSI Graduate Student Instructor

## INVITED TALKS

Spring 2023	Nokia Bell Labs Responsible AI Seminar Series – <i>“Rethinking the AI-UX Boundary for Designing Human-AI Experiences”</i>
Spring 2023	ACM India Bootcamp on Responsible Computing – <i>“Human Centered Ethical AI”</i>
Spring 2023	CMU HCII Seminar Series – <i>“Rethinking the AI-UX Boundary for Designing Human-AI Experiences”</i>
Winter 2023	RILE Colloquium on Race, Inequality, and Language in Education - <i>“Intro to Data Visualization”</i>
Fall 2023	CMU HCII (Prototyping AI Interfaces): <i>“Designing AI Experiences”</i> EDS Seminar - <i>“Visualizations for Machine Learning”</i>
Spring 2022	EdukCircle International Convention on Education Studies: <i>“Designing AI Experiences for Critical Human Tasks”</i>
Fall 2021	Stanford CS 448: <i>“Visualizations for Machine Learning”</i>  Stanford HCI: <i>“Rethinking the AI-UX Boundary for Designing Human-AI Experiences”</i>  Texas A&M University: <i>“Designing Interactive Systems for Creativity and Sensemaking”</i>  Allen Institute for AI: <i>“Centering People in the Design of AI Experiences”</i>  CMU HCII (Prototyping AI Interfaces): <i>“Designing AI Experiences”</i>
Summer 2021	Aalto University (Critical AI and Data Justice in Society): <i>“Centering People in the Design of AI Experiences”</i>  KAIST University (Human-AI Interaction): <i>“Co-designing Human-AI Experiences”</i>  MediaX at Stanford University: <i>“Leaky Abstractions for Designing AI Experiences”</i>
Fall 2020	Ann Arbor Data Dive: Visualizations for COVID Data [Talk + Workshop]
Winter 2020	Berea College: <i>“Designing Human-AI Applications”</i> [Talk + Design Workshop]
Winter 2019	SI 482: <i>“Many faces of Interaction Design”</i>
Winter 2018	EECS 482: <i>“Inmates Are Running the Asylum and Why I Think They Should”</i>
Winter 2017	SI 612: <i>“Lessons from Unboxing the Blackbox”</i>
Winter 2017	SI 110: <i>“Introduction to Information Visualization”</i>
Winter 2016	SI 612: <i>“Lessons from Unboxing the Blackbox”</i>

Fall 2015 **Mobile Developer Community Conference: "MTogether: Designing a Living Lab for Social Media Research"**

## ACADEMIC SERVICES AND LEADERSHIP

2022 - 2023 Stanford HAI Graduate Fellows Program – Director  
2021 – 2022 Stanford HAI Graduate Fellows Program – Co-Director  
2018 – 2019 Michigan Interactive and Social Computing (MISC) Research Group – Coordinator  
2017 – 2018 Doctoral Executive Committee – Representative  
2018 DOIIIT Maker Space – Co-Director  
2015 – 2016 DOIIIT Maker Space – Co-Founder

REVIEWER

2023 Senior PC Member – FaccT 2023  
Reviewer CHI 2023

2022 Associate Chair – FaccT 2022, Program Committee – UIST 2022, Program Committee – CHI 2022 WIP Track

2021 CHI 2021, TEI 2021, CSCW 2021, Program Committee – UIST 2021

2020 CHI 2020, Journal of Cognitive Science, DIS 2020, InfoVis 2020, UIST 2020, Associate Chair – Graphics Interfaces 2020, Program Committee - HAI Workshop at ECAI 2020

2019 CHI 2019, UIST 2019, DIS 2019, C&C 2019

2017 CHI 2017

2016 CHI 2016

## STUDENTS MENTORED

### *PhD Advisor*

2022 – Present Jeongyeon Kim, PhD, Stanford CS (Co-advised with Maneesh Agrawala)

### *Research Mentoring*

2022 – Present Miroslav Ivan Suzara, PhD, Stanford GSE  
2022 – Present Vishal Mohanty, MS, Stanford CS  
2022 – Present Madhurima Mahajan, MS, Material Science

2022 – Present **Jasmine Shih**, MS, Stanford CS  
2022 – Present **Mei Tan**, MS, Stanford GSE  
2022 – Present **Chris Pondoc**, MS, Stanford CS  
2022 – Present **Kelly Chen**, MS, Stanford CS  
2022 – Present **Jenny Li Han**, Masters, Stanford CS  
2022 **Yuyu Lin**, Masters, Stanford CS  
2022 **Hansol Lee**, PhD, Stanford GSE  
2022 **Steven Matthias Moore**, Technical University Munich, Visiting Student Researcher  
2022 **Manasi Pawar**, Bachelors CS, Pune University, India  
2021 **Sibei Zhang**, Masters, Stanford GSE  
2020 - 2021 **Yining (Rima) Cao**, Masters, UMSI (now PhD at UCSD)  
2020 - 2021 **Miriam Greenberg**, Undergraduate, Art and Design  
2019 - 2020 **Blake Wagner**, Masters, UMSI  
2018 - 2019 **Catherine Lawton**, Undergraduate, U of M Psychology  
2018 - 2019 **Jane Im**, PhD, UMSI  
2018 - 2019 **Xiaochuan Kou**, Masters, UMSI  
2018 - 2019 **Chetan Keshav**, Masters, UMSI  
2018 - 2019 **Elham Amini**, Masters, UMSI  
2018 - 2019 **Yu-Cheng Chang**, Masters, UMSI  
2017 - 2018 **Brian Hall**, PhD, UMSI