Stanford



Hariharan Subramonyam

Assistant Professor (Research) of Education

Graduate School of Education

Curriculum Vitae available Online

CONTACT INFORMATION

- **Administrative Support**

  Krezna Palces - Administrative Assistant

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Bio

BIO

Hari Subramonyam is an Assistant Professor (Research) at the Graduate School of Education and a Faculty Fellow at Stanford's Institute for Human-Centered AI. He is also a member of the HCI Group at Stanford. His research focuses on augmenting critical human tasks (such as learning, creativity, and sensemaking) with AI by incorporating principles from cognitive psychology. He also investigates support tools for multidisciplinary teams to co-design AI experiences. His work has received multiple best paper awards at top human-computer interaction conferences, including CHI and IUI.

ACADEMIC APPOINTMENTS

- Assistant Professor-Research, Graduate School of Education

HONORS AND AWARDS

- Student Design Competition 3rd Place, CHI (05/2015)
- Best Paper Award, CHI (05/2019)
- Best Paper Award, CHI (04/2020)

PROFESSIONAL EDUCATION

- Ph.D. Information, University of Michigan , Dissertation: Role of End-User Data in Co-Designing AI-Powered Applications (2021)
- B.E. Telecommunication, CMR Institute of Technology (2008)
- M.S. Information, University of Michigan , Human Computer Interaction (2015)

LINKS

- Personal Website: https://haridecoded.com/

Research & Scholarship

RESEARCH INTERESTS

- Assessment & Evaluation
- Cognitive Development
- Data Science

- Educational Inequality
- Learning Sciences
- Learning Technologies
- Qualitative Methods
- Science Education

Teaching

COURSES

2025-26

- Designing Explorable Explanations for Learning: EDUC 432 (Spr)
- Human-Computer Interaction Seminar: CS 547 (Aut)

2024-25

- Designing Explorable Explanations for Learning: EDUC 432 (Win)

2023-24

- Designing Explorable Explanations for Learning: EDUC 432 (Win)

STANFORD ADVISEES

Orals Chair

Ivmin Zhang

Doctoral Dissertation Advisor (AC)

Saehui Hwang

Doctoral Dissertation Co-Advisor (AC)

Zoe Kaputa

Master's Program Advisor

Zikun Zhu

Doctoral (Program)

Neha Rajagopalan

Publications

PUBLICATIONS

- **Deep Sketch-Based 3D Modeling: A Survey** *COMPUTER GRAPHICS FORUM*
  Tono, A., Wu, J., Wetzstein, G., Armeni, I., Subramonyam, H., Landay, J., Fischer, M.
  2026
- **DraftMarks: Enhancing Transparency in Human-AI Co-Writing Through Interactive Skeuomorphic Process Traces**
  Siddiqui, M. N., Nasseri, N., Coscia, A. J., Pea, R., Subramonyam, H., ACM
  ASSOC COMPUTING MACHINERY.2026
- **SimStep: Human-in-the-Loop Authoring of Interactive Educational Simulations Through Task-Level Abstractions**
  Kaputa, Z., Rajaram, A., Feliciano, V., Lyu, Z., Agrawala, M., Subramonyam, H., ACM
  ASSOC COMPUTING MACHINERY.2026
- **Generative Design and Vibe Coding: Rethinking The Design-Development Divide for UI Prototyping**

Zhang, X., Subramonyam, H., Sarkar, A., Drosos, I., Wang, Z., Lee, K., Pimenova, V., Chen, X., Lukoff, K., ACM
ASSOC COMPUTING MACHINERY.2026

- **Narrative visualizations: Depicting accumulating risks and increasing trust in data.** *Cognitive research: principles and implications*
  Fansher, M., Walls, L., Hao, C., Subramonyam, H., Boduroglu, A., Shah, P., Witt, J. K.
  2025; 10 (1): 7
- **Script&Shift: A Layered Interface Paradigm for Integrating Content Development and Rhetorical Strategy with LLM Writing Assistants**
  Siddiqui, M. N., Pea, R. D., Subramonyam, H., ACM
  ASSOC COMPUTING MACHINERY.2025
- **Thinking Like a Scientist: Can Interactive Simulations Foster Critical AI Literacy?**
  Zhao, Y., Michal, A., Thain, N., Subramonyam, H.
  edited by Cristea, A. I., Walker, E., Lu, Y., Santos, O. C., Isotani, S.
  SPRINGER INTERNATIONAL PUBLISHING AG.2025: 60-74
- **AI in the Writing Process: How Purposeful AI Support Fosters Student Writing**
  Siddiqui, M. N., Feliciano, V., Pea, R., Subramonyam, H.
  edited by Cristea, A. I., Walker, E., Lu, Y., Santos, O. C., Isotani, S.
  SPRINGER INTERNATIONAL PUBLISHING AG.2025: 190-203
- **CogGen: A Learner-Centered Generative AI Architecture for Intelligent Tutoring with Programming Videos**
  Li, W., Pea, R., Haber, N., Subramonyam, H.
  edited by Cristea, A. I., Lu, Y., Santos, O. C., Walker, E., Isotani, S.
  SPRINGER INTERNATIONAL PUBLISHING AG.2025: 11-18
- **Prototyping with Prompts: Emerging Approaches and Challenges in Generative AI Design for Collaborative Software Teams**
  Subramonyam, H., Thakkar, D., Ku, A., Dieber, J., Sinha, A. K., ACM
  ASSOC COMPUTING MACHINERY.2025
- **Promoting Comprehension and Engagement in Introductory Data and Statistics for Blind and Low-Vision Students: A Co-Design Study**
  Fan, D., Tomassetti, O., Mouallem, A., Kim, G., Patel, S., Hwang, S., Leader, P., Sugrue, D., Chen, T., Ou, D., Lee, V. R., Balasubramanian, L., Subramonyam, et al
  ASSOC COMPUTING MACHINERY.2025
- **Tools for Thought: Research and Design for Understanding, Protecting, and Augmenting Human Cognition with Generative AI**
  Tankelevitch, L., Glassman, E. L., He, J., Kazemitabaar, M., Kittur, A., Lee, M., Palani, S., Sarkar, A., Ramos, G., Rogers, Y., Subramonyam, H., ACM
  ASSOC COMPUTING MACHINERY.2025
- **PlanTogether: Facilitating AI Application Planning Using Information Graphs and Large Language Models**
  Kim, D., Jeong, D., Yadgarova, S., Shin, H., Son, J., Subramonyam, H., Kim, J., ACM
  ASSOC COMPUTING MACHINERY.2025
- **Are We Closing the Loop Yet? Gaps in the Generalizability of VIS4ML Research.** *IEEE transactions on visualization and computer graphics*
  Subramonyam, H., Hullman, J.
  2024; 30 (1): 672-682
- **A Conceptual Framework for Ethical Evaluation of Machine Learning Systems**
  Gupta, N. R., Hullman, J., Subramonyam, H., Association for the Advancement of Artificial Intelligence
  ASSOC COMPUTING MACHINERY.2024: 534-546
- **AltCanvas: A Tile-Based Editor for Visual Content Creation with Generative AI for Blind or Visually Impaired People**
  Lee, S., Kohga, M., Landau, S., O'Modhrain, S., Subramonyam, H., ACM
  ASSOC COMPUTING MACHINERY.2024
- **Bridging the Gulf of Envisioning: Cognitive Challenges in Prompt Based Interactions with LLMs**
  Subramonyam, H., Pea, R., Pondoc, C., Agrawala, M., Seifert, C., ACM
  ASSOC COMPUTING MACHINERY.2024
- **Human-Computer Interaction and AI: What Practitioners Need to Know to Design and Build Effective AI systems from a Human Perspective**

Russell, D. M., Kulkarni, C., Glassman, E. L., Subramonyam, H., Martelaro, N., ASSOC COMPUTING MACHINERY
ASSOC COMPUTING MACHINERY.2024

- **More than Model Documentation: Uncovering Teachers' Bespoke Information Needs for Informed Classroom Integration of ChatGPT**
  Tan, M., Subramonyam, H., ACM
  ASSOC COMPUTING MACHINERY.2024
- **Dynamic Abstractions: Building the Next Generation of Cognitive Tools and Interfaces**
  Suh, S., Dang, H., Yen, R., Pollock, J. M., Arawjo, I., Habib, R., Subramonyam, H., Li, J., Saquib, N., Satyanarayan, A., ACM
  ASSOC COMPUTING MACHINERY.2024
- **AI-Driven Support for People with Speech & Language Difficulties**
  Dangol, A., Huang, Y., Setlur, S., Smolansky, A., Subramonyam, H., Suh, H., Xiong, J., Kientz, J. A., ASSOC COMPUTING MACHINERY
  ASSOC COMPUTING MACHINERY.2024
- **Leveraging Large Language Models to Enhance Domain Expert Inclusion in Data Science Workflows**
  Shih, J. Y., Mohanty, V., Katsis, Y., Subramonyam, H., ASSOC COMPUTING MACHINERY
  ASSOC COMPUTING MACHINERY.2024
- **Why and When LLM-Based Assistants Can GoWrong: Investigating the Effectiveness of Prompt-Based Interactions for Software Help-Seeking**
  Khurana, A., Subramonyam, H., Chilana, P. K., Assoc Computing Machinery
  ASSOC COMPUTING MACHINERY.2024: 288-303
- **Evaluating longitudinal relationships between parental monitoring and substance use in a multi-year, intensive longitudinal study of 670 adolescent twins.** *Frontiers in psychiatry*
  Alexander, J. D., Freis, S. M., Zellers, S. M., Corley, R., Ledbetter, A., Schneider, R. K., Phelan, C., Subramonyam, H., Frieser, M., Rea-Sandin, G., Stocker, M. E., Vernier, H., Jiang, et al
  2023; 14: 1149079
- **fAllureNotes: Supporting Designers in Understanding the Limits of AI Models for Computer Vision Tasks**
  Moore, S., Liao, Q., Subramonyam, H., ACM
  ASSOC COMPUTING MACHINERY.2023
- **Designerly Understanding: Information Needs for Model Transparency to Support Design Ideation for AI-Powered User Experience**
  Liao, Q., Subramonyam, H., Wang, J., Vaughan, J., ACM
  ASSOC COMPUTING MACHINERY.2023
- **How Do Viewers Synthesize Conflicting Information from Data Visualizations?** *IEEE transactions on visualization and computer graphics*
  Mantri, P., Subramonyam, H., Michal, A. L., Xiong, C.
  2022; PP
- **Solving Separation-of-Concerns Problems in Collaborative Design of Human-AI Systems through Leaky Abstractions**
  Subramonyam, H., Im, J., Seifert, C., Adar, E., ACM
  ASSOC COMPUTING MACHINERY.2022
- **VideoSticker: A Tool for Active Viewing and Visual Note-taking from Videos**
  Cao, Y., Subramonyam, H., Adar, E., Assoc Comp Machinery
  ASSOC COMPUTING MACHINERY.2022: 672-690
- **Composites: A Tangible Interaction Paradigm for Visual Data Analysis in Design Practice**
  Subramonyam, H., Adar, E., Drucker, S. M.
  edited by Bottoni, P., Panizzi, E.
  ASSOC COMPUTING MACHINERY.2022
- **Towards A Process Model for Co-Creating AI Experiences**
  Subramonyam, H., Seifert, C., Adar, E., ACM
  ASSOC COMPUTING MACHINERY.2021: 1529-1543
- **ProtoAI Model-Informed Prototyping for AI-Powered Interfaces**
  Subramonyam, H., Seifert, C., Adar, E., ASSOC COMP MACHINERY

ASSOC COMPUTING MACHINERY.2021: 48-58

- **texSketch: Active Diagramming through Pen-and-Ink Annotations**
  Subramonyam, H., Seifert, C., Shah, P., Adar, E., ACM
  ASSOC COMPUTING MACHINERY.2020
- **Explore, Create, Annotate: Designing Digital Drawing Tools with Visually Impaired People**
  Pandey, M., Subramonyam, H., Sasia, B., Oney, S., O'Modhrain, S., ACM
  ASSOC COMPUTING MACHINERY.2020
- **Affinity Lens Data-Assisted Affinity Diagramming with Augmented Reality**
  Subramonyam, H., Drucker, S. M., Adar, E., Assoc Comp Machinery
  ASSOC COMPUTING MACHINERY.2019
- **SmartCues: A Multitouch Query Approach for Details-on-Demand through Dynamically Computed Overlays** *IEEE TRANSACTIONS ON VISUALIZATION AND COMPUTER GRAPHICS*
  Subramonyam, H., Adar, E.
  2019; 25 (1): 597-607
- **Designing Interactive Intelligent Systems for Human Learning, Creativity, and Sensemaking**
  Subramonyam, H., ACM
  ASSOC COMPUTING MACHINERY.2019: 158-161
- **TakeToons: Script-driven Performance Animation**
  Subramonyam, H., Li, W., Adar, E., Dontcheva, M., Assoc Comp Machinery
  ASSOC COMPUTING MACHINERY.2018: 663-674
- **The application of ecological momentary assessment and geolocation to a longitudinal twin study of substance use**
  Brazel, D., Corley, R., Phelan, C., Frieser, M., Subramonyam, H., Rhea, S., Vernier, H., Hewitt, J., Resnick, P., Vrieze, S.
  SPRINGER.2017: 676-677
- **Agency in Assistive Technology Adoption: Visual Impairment and Smartphone Use in Bangalore**
  Pal, J., Viswanathan, A., Chandra, P., Nazareth, A., Kameshwaran, V., Subramonyam, H., Johri, A., Ackerman, M. S., O'Modhrain, S., ACM
  ASSOC COMPUTING MACHINERY.2017: 5929-5940