
I am a mixed methods HCI researcher who designs, implements, and evaluates novel interactions for end-users, learners, professional programmers, and data analysts

Skills

User Research and Design

- Figma (interaction design, prototyping)
- Qualitative research (thematic analysis, interviews, content analysis, surveys, comparative tool studies, and design probes)
- Quantitative analysis (Python and R)

Programming

- Python
- JavaScript (React)
- Java
- R
- SQL

Experience

Microsoft Research, Cambridge UK - Researcher

July 2022 - PRESENT

- Transfers research insights to product groups and leadership at Excel, VSCode Copilot, MS Office, and “v-teams” (Appropriate reliance of AI group, Copilot coherence group).
- Designed and implemented a React JS prototype which provides a multi-agent approach that allows users to interact with GPT-4 to dynamically generate UI elements that helps users have greater control of AI responses and explanations. As part of this project I:
 - Developed, ran, and analyzed a formative survey (n=36) of internal Copilot users that contained a design probe that collected design needs from users for better AI experiences.
 - Led UX research (n=16) to evaluate this approach against an alternative approach and collected design implications for future AI systems through interviews and questionnaires.
 - Provided user study insights and prototype to a MS Office design team which has built off of the approach to form a new feature planned to be released in a major product in 2025.
- Led UX research (n=24) of a novel prototype that leverages LLMs to assist user critical thinking during data-driven-decision-making by generating ‘provocations’ (AI-generated critiques of AI-generated content) to help users think more broadly about data-driven sensemaking.
- Authored/co-authored 12 research publications and 3 patents involving data analysis, end-user programming, and AI, including a new formula debugger in Excel (available in [Excel Labs](#)).

Autodesk Research, Remote US - User Interface Research Intern

January 2021 - April 2021

- Investigated barriers to providing expert (human) help to questions about feature-rich software.
- Designed, implemented, and deployed a custom survey prototype to collect feedback from experts (n=28), which informed internal teams on developing better help systems. Paper in submission.

Microsoft, Redmond WA - Research Intern

July 2018 - December 2018

- As part of [PROSE](#), I designed, implemented, and evaluated a prototype for generating readable Python code within Jupyter notebooks using JavaScript and Python through program synthesis.
- Led UX research (n=12) of Wrex which found data scientists are significantly more effective and efficient at data wrangling and reduced barriers in having to recall data transform functions.
- Results and design recommendations were presented to Microsoft Azure, and was published as Wrex [1], which won Best Paper at CHI2020.

UCSD - The Design Lab, La Jolla CA - *PhD Researcher*

September 2017 - June 2022

- Performed HCI research on user-centered learning and performing data science, including qualitative analysis of video tutorials, data analysis systems, and more to form design spaces and design principles that inform the future design of learning tools and content.
- Published six academic papers and won two paper awards.
- Instructor of record for HCI Portfolio Design Studio, teaching assistant for Interaction Design, HCI Programming Studio, and Data-Driven UX/Product Design.

Verizon, Alpharetta GA - *Member Technical Staff I & II, Systems Engineering*

May 2011 - July 2015

- Full-stack software engineer for internal systems that managed enterprise accounts, contracts, and purchase orders.
- Developed systems in Java, JavaScript, HTML, and PL/SQL.
- Modernized existing systems through rewrites into new frameworks.
- Debugged and resolved critical issues reported by users, including stabilizing systems during major product rollout.
- Experience of working in the complete software development life cycle involving development, documentation, testing and maintenance.

Education

University of California San Diego, La Jolla CA

2017 - 2022

PhD Cognitive Science

Thesis: [Synthesizing Transparent and Inspectable Technical Workflows](#)

HCI research on better interactions for learning and doing data science (6 publications, 2 awards).

North Carolina State University, Raleigh NC

2015 - 2017

MS Computer Science

Thesis: [HappyFace: Identifying and Predicting Frustrating Learning Obstacles at Scale](#)

HCI research on detecting frustrating programming learning obstacles at scale (1 publication).

Southern Polytechnic State University*, Marietta GA

2007 - 2011

BS Computer Science

**Now Kennesaw State University*

Selected publications and awards

[1] Wrex: A Unified Programming-By-Example Interaction for Synthesizing Readable Code for Data Scientists. (CHI 2020). ***Best Paper Award***

[2] FxD: a functional debugger for dysfunctional spreadsheets. (VL/HCC 2023). (Patent filed).

Best Paper Honorable Mention Award

[3] "It's like a rubber duck that talks back": Understanding Generative AI-Assisted Data Analysis Workflows through a Participatory Prompting Study. (CHIWORK 2024).

[4] Led Dynamic Prompt Middleware hackathon based on research submitted to IUI 2025 - 2nd place / 1,064 projects 'Everyday AI' Executive Challenge, 1st place Hack for differentiated experiences on Copilot+ PCs Topic Challenge

See my [personal site](#) for a full CV of publications, projects, and awards.