

Ian Drosos

	HCI Researcher Microsoft Research Cognitive Science Ph.D.	Updated: March 26, 2024 linkedin.com/in/ian-drosos/ iandrosos.me
RESEARCH INTERESTS	human-computer interaction; designing and implementing tools to support and enhance the workflows of content creators, developers, data scientists, and learners.	
EDUCATION	University of California, San Diego Ph.D. in Cognitive Science Thesis: <i>Synthesizing Transparent and Inspectable Technical Workflows</i> , Advisor: Philip Guo	2017 – 2022
	North Carolina State University M.S. in Computer Science Thesis: <i>HappyFace: Identifying and Predicting Frustrating Learning Obstacles at Scale</i> , Advisor: Chris Parnin	2015 – 2017
	Southern Polytechnic State University B.S. in Computer Science	2007 – 2011
EXPERIENCE	Microsoft Research, Cambridge, UK <i>Researcher</i> HCI research in bringing intelligence to end-user programming and data workflows. Partnered with product teams at Excel to provide design and UX insights as part of transferring research findings to product managers and designers. [C.8-10; C.X2-X4; J.X; W.1-2]	2022 –
	UCSD – The Design Lab, La Jolla, CA <i>Researcher – Ph.D. Candidate</i> HCI research in providing better experiences for developers, data scientists, learners, and content creators. [C.2-7]	2017 – 2022
	UCSD, La Jolla, CA <i>Instructor</i> HCI Portfolio Design Studio (COGS121) <ul style="list-style-type: none">• Quarter: Spring 2022 <i>Teaching Assistant</i> Interaction Design (COGS120/CSE170) <ul style="list-style-type: none">• Quarters: Winter 2018, 2019• Instructor: Scott Klemmer Human-Computer Interaction Programming Studio (COGS121) <ul style="list-style-type: none">• Spring 2018, 2019• Instructor: Philip Guo HCI Portfolio Design Studio (COGS121) <ul style="list-style-type: none">• Quarters: Spring 2020, 2021• Instructor: Philip Guo Data-Driven UX/Product Design (COGS127) <ul style="list-style-type: none">• Quarter: Winter 2022• Instructor: Sean Kross	2018 – 2022

Autodesk, San Rafael, CA*Intern – User Interface Research*

01/2021 – 04/2021

Researching, prototyping, and studying software learning with the HCI and Visualization team at Autodesk Research [C.X1].

Microsoft, Redmond, WA*Research Intern – Program Synthesis*

07/2018 – 12/2018

Researching, prototyping, and studying program synthesis interactions for data scientists on the PROSE team (microsoft.github.io/prose). [C.4]

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

2011 – 2015

Full-stack software engineer developing enterprise systems using Java, PL/SQL, JavaScript, and HTML.

PUBLICATIONS

(C)onference, (J)ournal, and (W)orkshop.

In prep (names not final):

- C.X4 The design space of AI explanations and control.
- C.X3 LLMs for critical thinking and decision-making.

C.X2 Majeed Kazemitabaar, Jack Williams, **Ian Drosos**, Tovi Grossman, Austin Henley, Carina Negreanu, and Advait Sarkar. 2024. Steering and Verification Techniques for AI-Assisted Data Analysis. (In review).

C.X1 **Ian Drosos**, Jo Vermeulen, George Fitzmaurice, Justin Matejka. 2024. Nanomentoring: Investigating How Quickly People Can Help People Learn Feature-Rich Software (In review).

J.X **Ian Drosos**, Advait Sarkar, and Andrew D. Gordon. 2023. “My toxic trait is thinking I’ll remember this”: Gaps in the learner experience of video tutorials for feature-rich software. (In review).

C.10 **Ian Drosos**, Advait Sarkar, Xiaotong Xu, Carina Negreanu, Sean Rintel, and Lev Tankelevitch. 2024. “It’s like a rubber duck that talks back”: Understanding Generative AI-Assisted Data Analysis Workflows through a Participatory Prompting Study. In Proceedings of the Symposium on Human-Computer Interaction for Work. (CHIWORK 2024).

W.2 Andrew D. Gordon, Carina Negreanu, José Cambronero, Rasika Mudumbai Chakravarthy, **Ian Drosos**, Hao Fang, Bhaskar Mitra, Hannah Richardson, Advait Sarkar, Stephanie Simmons, Jack Williams, Ben Zorn. 2024. Co-audit: tools to help humans double-check AI-generated content. PLATEAU Workshop (PLATEAU 2024). [\[Link\]](#)

W.1 Advait Sarkar, **Ian Drosos**, Rob DeLine, Andrew D. Gordon, Carina Negreanu, Sean Rintel, Jack Williams, and Ben Zorn. 2023. Participatory prompting: a user-centric research method for eliciting AI assistance opportunities in knowledge workflows. Proceedings of the 34th Annual Conference of the Psychology of Programming Interest Group (PPIG 2023). [\[Link\]](#)

C.9 **Ian Drosos**, Nick Wilson, Andrew D. Gordon, Sruti Ragavan, and Jack Williams. 2023. FxD: a functional debugger for dysfunctional spreadsheets. In Proceedings of the Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2023). (Patent filed). [\[Link\]](#)

Best Paper, Honorable Mention Award

C.8 Kasra Ferdowsi, Jack Williams, **Ian Drosos**, Andrew D. Gordon, Carina Negreanu, Advait Sarkar, Benjamin Zorn. 2023. ColDeco: An End User Spreadsheet Inspection Tool for AI-Generated Code. In Proceedings of the Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2023). (Patent filed). [\[Link\]](#)

C.7 **Ian Drosos** and Philip Guo. 2022. The Design Space of Livestreaming Equipment Setups: Tradeoffs, Challenges, and Opportunities. In Designing Interactive Systems Conference 2022 (DIS 2022). [\[Link\]](#)

C.6 **Ian Drosos** and Philip Guo. 2021. Streamers Teaching Programming, Art, and Gaming: Cognitive Apprenticeship, Serendipitous Teachable Moments, and Tacit Expert Knowledge. In Proceedings of the Symposium on Visual Languages and Human-Centric Computing, short paper (VL/HCC 2021). [\[Link\]](#)

Best Short Paper, Honorable Mention Award

C.5 Sam Lau, **Ian Drosos**, Julia Markel and Philip Guo. 2020. The Design Space of Computational Notebooks: An Analysis of 60 Systems in Academia and Industry. In Proceedings of the Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2020). [\[Link\]](#)

C.4 **Ian Drosos**, Titus Barik, Philip Guo, Robert DeLine, and Sumit Gulwani. 2020. Wrex: A Unified Programming-By-Example Interaction for Synthesizing Readable Code for Data Scientists. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI 2020). [\[Link\]](#)

Best Paper Award (Top 1%)

C.3 Adam Rule, **Ian Drosos**, Aurélien Tabard, and James D. Hollan. 2018. Aiding Collaborative Reuse of Computational Notebooks with Annotated Cell Folding. In Proceedings of the ACM Conference on Computer-Supported Cooperative Work and Social Computing. ACM, Article 150 (CSCW 2018). [\[Link\]](#)

C.2 René Just, Chris Parnin, **Ian Drosos**, and Michael D. Ernst. 2018. Comparing developer-provided to user-provided tests for fault localization and automated program repair. In Proceedings of the 27th ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA 2018). [\[Link\]](#)

C.1 **Ian Drosos**, Philip Guo, and Chris Parnin. 2017. HappyFace: Identifying and Predicting Frustrating Obstacles for Learning Programming at Scale. In Proceedings of the Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2017). [\[Link\]](#)

TOOLS

Figma, Jupyter Notebook, RStudio, DaVinci Resolve

PROGRAMMING LANGUAGES	Python, JavaScript, HTML, Java, R, L ^A T _E X
SERVICE	<i>Program Committee</i> Learning @ Scale 2024 VL/HCC 2024 Learning @ Scale 2023 VL/HCC 2023 <i>Reviewer</i> CHI 2024 CHI 2023 CHI 2022 VL/HCC 2021 UIST 2020
INVITED TALKS	<i>Learning programming in the era of LLMs</i> , Google, January 2024
MENTORSHIP	Xiaotong (Tone) Xu, <i>Microsoft Research internship</i> , Summer 2023 Majeed Kazemitabaar, <i>Microsoft Research internship</i> , Summer 2023 Kasra Ferdowsi, <i>Microsoft Research internship</i> , Summer 2022