

## Ian Drosos

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	Researcher Microsoft Research Cambridge, UK	Updated: August 12, 2023 <a href="https://linkedin.com/in/ian-drosos/">linkedin.com/in/ian-drosos/</a> <a href="https://iandrosos.me">iandrosos.me</a>
RESEARCH INTERESTS	human-computer interaction; designing and implementing tools to support and enhance the workflows of developers, data scientists, learners, and content creators.	
EDUCATION	<b>University of California, San Diego</b> Ph.D. in Cognitive Science Thesis: <i>Synthesizing Transparent and Inspectable Technical Workflows</i> Advisor: Philip Guo	2017 – 2022
	<b>North Carolina State University</b> M.S. in Computer Science Thesis: <i>HappyFace: Identifying and Predicting Frustrating Learning Obstacles at Scale</i> , Advisor: Chris Parnin	2015 – 2017
	<b>Southern Polytechnic State University</b> B.S. in Computer Science	2007 – 2011
EXPERIENCE	<b>Microsoft Research, Cambridge, UK</b> <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, 9, x; W.1]	2022 –
	<b>UCSD – The Design Lab, La Jolla, CA</b> <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
	<b>UCSD, La Jolla, CA</b> <i>Instructor</i> HCI Portfolio Design Studio (COGS121) <ul style="list-style-type: none"><li>• Quarter: Spring 2022</li></ul> <i>Teaching Assistant</i> Interaction Design (COGS120/CSE170) <ul style="list-style-type: none"><li>• Quarters: Winter 2018, 2019</li><li>• Instructor: Scott Klemmer</li></ul> Human-Computer Interaction Programming Studio (COGS121) <ul style="list-style-type: none"><li>• Spring 2018, 2019</li><li>• Instructor: Philip Guo</li></ul> HCI Portfolio Design Studio (COGS121) <ul style="list-style-type: none"><li>• Quarters: Spring 2020, 2021</li><li>• Instructor: Philip Guo</li></ul> Data-Driven UX/Product Design (COGS127) <ul style="list-style-type: none"><li>• Quarter: Winter 2022</li><li>• Instructor: Sean Kross</li></ul>	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.

**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.x Nanomentors: people quickly helping people learn feature-rich software (In prep).

C.x Decomposing LLMs planning and coding steps to steer data analysis (In prep).

C.x LLMs for critical thinking and decision-making (In prep).

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).

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).

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

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 filing in progress).

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). [\[Link\]](#)  
**\*Honorable Mention Paper 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, DaVinci Resolve
PROGRAMMING LANGUAGES	Python, JavaScript, HTML, Java, R, L <sup>A</sup> T <sub>E</sub> X
SERVICE	<i>Program Committee</i> , L@S 2023, VL/HCC 2023 <i>Reviewer</i> , UIST 2020, VL/HCC 2021, CHI 2022, CHI 2023