Justin Lubin

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Curriculum Vitae, April 2023

Research Vision

Computation is empowering, and programming languages are how we harness it. To that end, I study the human aspect of programming to make programming languages, environments, and tools that are more accessible, intuitive, and powerful.

Primary area: programming languages ∘ **Secondary area:** human-computer interaction

Education

University of California, Berkeley   2020–
PhD in Computer Science
Advisor: Sarah E. Chasins

University of Chicago   2016–2020
BS in Computer Science (Honors), BS in Mathematics, Minor in Music. *Summa cum laude.*
Advisor: Ravi Chugh
Honors Thesis: Forging Smyth: The Impl. of *Program Sketching with Live Bidirectional Evaluation*

Research Internships

Carnegie Mellon University   2018
Advisors: Jonathan Aldrich (CMU), Alex Potanin (Victoria University of Wellington)
Project: Approximating Polymorphic Effects with Capabilities

Peer-Reviewed Conference and Journal Publications

Exploring the Learnability of Program Synthesizers by Novice Programmers   UIST 2022
Dhanya Jayagopal*, Justin Lubin*, and Sarah E. Chasins *(* equal contribution)*
In *Proceedings of the ACM Symposium on User Interface Software and Technology.*

How Statically-Typed Functional Programmers Write Code   OOPSLA 2021
Justin Lubin and Sarah E. Chasins
In *Proceedings of the ACM on Programming Languages (PACMPL), Issue OOPSLA.*

Program Sketching with Live Bidirectional Evaluation   ICFP 2020
Justin Lubin, Nick Collins, Cyrus Omar, and Ravi Chugh
In *Proceedings of the ACM on Programming Languages (PACMPL), Issue ICFP.*

Sketch-n-Sketch: Output-Directed Programming for SVG   UIST 2019
Brian Hempel, Justin Lubin, and Ravi Chugh
In *Proceedings of the ACM Symposium on User Interface Software and Technology.*

Deuce: A Lightweight User Interface for Structured Editing   ICSE 2018
Brian Hempel, Justin Lubin, Grace Lu, and Ravi Chugh
In *Proceedings of the International Conference on Software Engineering.*

Workshop Publications

Searching for Incidental Specifications   PLATEAU 2023
Jeremy Ferguson*, Kevin Ye*, Jacob Yim*, and <u>Justin Lubin</u> *(* equal contribution)*
In *Proceedings of the Workshop on Evaluation and Usability of Programming Languages and Tools.*

Type-Directed Program Transformations for the Working Functional Programmer   PLATEAU 2019
<u>Justin Lubin</u> and Ravi Chugh
In *Proceedings of the Workshop on Evaluation and Usability of Programming Languages and Tools.*

Honors

NSF Graduate Research Fellowship (GRFP)	2020–2025
Special Recognition for Outstanding Review	CHI 2023
Outstanding Graduate Student Instructor Award	2022

Student Research Competitions

3$^\mathrm{rd}$ Place Graduate at CHI, *How Statically-Typed Functional Programmers Author Code*	2021
1$^\mathrm{st}$ Place Undergraduate at SPLASH, *Approximating Polymorphic Effects with Capabilities*	2018

Honor Societies

Sigma Xi	2020–
Phi Beta Kappa	2019–

Academic Honors

Enrico Fermi Scholar (University of Chicago)	2020
Harper Award (University of Chicago)	2020
Student Marshal (University of Chicago)	2019–2020
Dean's List (University of Chicago)	2016–2020

Invited Talks and Other Presentations

Exploring the Learnability of Program Synthesizers by Novice Programmers

EPIC Advance 2022	2022

How Statically-Typed Functional Programmers Write Code

UPenn PLClub	2022
UCSD Programming Languages Seminar	2021

Programming Workshop for Experimental Biologists

Nuñez Lab	2023

Guest Lectures

User-Centered Design @ CS 294: Building User-Centered Programming Tools	2023
Compiler Optimizations @ CS 164: Programming Languages and Compilers	2021

Teaching

University of California, Berkeley

CS 164: Programming Languages and Compilers (TA)   Fall 2022
CS 164: Programming Languages and Compilers (Head TA)   Fall 2021
  Received Outstanding Graduate Student Instructor Award

University of Chicago

CMSC 22300: Functional Programming (TA)   Spring 2020
CMSC 16100: Honors Introduction to Programming I (Grader)   Fall 2018

Professional Activities and External Service

Dagstuhl

Theories of Programming   2022

Organizing Committee

PLATEAU Workshop   2023

External Reviewer

ACM Conference on Human Factors in Computing Systems   CHI 2023
  Received Special Recognition for Outstanding Review
Formal Methods in System Design   FMSD 2022
ACM Symposium on User Interface Software and Technology   UIST 2021

Social Sessions Co-Organizer

PL+HCI "Swimmer" School   2022

Student Volunteer

Elm in the Spring Conference   2019
International Conference on Functional Programming (ICFP)   2018

Mentorship

Research Advisees

Jeremy Ferguson (Undergraduate @ UC Berkeley)   2022–
  2nd Place Undergraduate at POPL SRC 2023: Synthesizing Vectorized Code via Verified Lifting
  Co-first author at PLATEAU 2023

Kevin Ye (Undergraduate @ UC Berkeley)   2022–
  Co-first author at PLATEAU 2023

Jacob Yim (Undergraduate @ UC Berkeley)   2022–
  Co-first author at PLATEAU 2023

Fayaz Shaik (Undergraduate @ Ohlone College; TTE REU mentee)   2021–2022

Dhanya Jayagopal (Undergraduate and MS @ UC Berkeley; MS advisee)   2020–2022
  MS Thesis: Study of Program Synthesizers & Novice Programmers
  Co-first author at UIST 2022

SIGPLAN-M Mentees

Carolina Carreira (PhD @ CMU Portugal)	2022–
Adharsh Kamath (Research Fellow @ MSR India)	2022–

Additional Mentees

Kasozi Vincent (MS @ University of Chlef)	2022

Internal Service

UC Berkeley Programming Systems Research Group

Visit Days Area Student Coordinator	2022
Seminar Organizer	2021–2022
Graduate Admissions Student Representative (reviewed 110 applications)	Winter 2021
Visit Days Peer Advisor	2021–2023

UC Berkeley EECS Department

EECS Peers (Graduate Student Peer Support Organization) Mentor	2022–
Women in Computer Science and Electrical Engineering Mentor	2022–

Community Service

#ShutdownPL, Co-organizer   2020–2022

Organization to identify, discuss, and organize around opportunities for anti-racist change in the programming languages community.