

# Justin Lubin

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Curriculum Vitae, February 2020

## Research Interests

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My goal is twofold: to develop elegant theories and to make them usable by humans. To that end, I am interested in *programming language theory* and *human-computer interaction*. In particular, I am interested in designing and leveraging type systems and language constructs to make programming languages, environments, and tools more accessible, intuitive, and powerful.

## Education

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**University of Chicago**, Chicago, IL 2016–2020 (expected)  
*B.S., Computer Science, Mathematics (Minor in Music).*  
GPA: 3.96/4.00.

## Research Experience

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**Research Assistant** 2016–present  
*University of Chicago*, Chicago, IL.  
Advisor: Ravi Chugh.

**Research Assistant** 2018  
*Carnegie Mellon University*, Pittsburgh, PA.  
Advisors: Jonathan Aldrich (CMU), Alex Potanin (Victoria University of Wellington).

## Other Experience

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**Grader** 2018  
*University of Chicago*, Chicago, IL  
CMSC 16100: Honors Introduction to Programming I

## Peer-Reviewed Publications

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**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 (UIST)*.  
New Orleans, LA, October 2019.

**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 (ICSE)*.  
Gothenburg, Sweden, May 2018.

## Publications in Submission

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**Program Sketching with Live Bidirectional Evaluation** 2019  
Justin Lubin, Nick Collins, Cyrus Omar, and Ravi Chugh.

## Peer-Reviewed Workshop Papers

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**Type-Directed Program Transformations for the Working Functional Programmer** PLATEAU 2019  
Justin Lubin and Ravi Chugh.  
For PLATEAU 2019.  
New Orleans, LA, October 2019.

## Presentations

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**Program Synthesis with Live Bidirectional Evaluation** 2019  
*Midwest Programming Languages Summit.*  
West Lafayette, IN, September 2019.

**Approximating Polymorphic Effects with Capabilities** 2018  
*SPLASH Student Research Competition.*  
Boston, MA, November 2018.

**Direct Manipulation Programming in Sketch-n-Sketch** 2018  
*International Conference on Functional Programming (ICFP) Tutorials.*  
St. Louis, MO, September 2018.  
Presented with Ravi Chugh, Nick Collins, Brian Hempel, and Mikaël Mayer.

## Posters

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**Program Synthesis with Live Bidirectional Evaluation** 2019  
*UCISTEM Undergraduate Research Symposium.*  
Chicago, IL, September 2019.

**Approximating Polymorphic Effects with Capabilities** 2018  
*Midwest Programming Languages Summit.*  
Madison, WI, October 2018.

## Honors

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**Student Marshal** 2019  
*University of Chicago, Chicago, IL.*  
Appointed by the president of the university.

**Phi Beta Kappa Honor Society** 2019  
*University of Chicago, Chicago, IL.*  
Inducted in third year of undergraduate studies.

**First Place (Undergraduate Category)** 2018  
*SPLASH Student Research Competition, Boston, MA.*  
Awarded for *Approximating Polymorphic Effects with Capabilities.*

**Dean's List** 2016–2019  
*University of Chicago, Chicago, IL.*

## Community and Professional Service

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<b>Volunteer Teacher (Piano)</b> <i>South Side Free Music Program.</i> Chicago, IL, Autumn 2019–Winter 2020. Student-run organization providing free weekly music lessons to children on the south side of Chicago.	2019–2020
<b>Volunteer Teacher</b> <i>UChicago Tech Interview Workshop.</i> Chicago, IL, Autumn 2019. Collaborative peer-led technical interview workshops.	2019
<b>Volunteer Teacher</b> <i>Music Sociality.</i> Chicago, IL, Autumn 2019. Enrichment program building social connections through music among children with autism and related sensory processing disorders.	2019
<b>Volunteer Teacher</b> <i>compileHer Tech Capstone.</i> Chicago, IL, April 2019. Computer science educational outreach for middle school girls in Chicago.	2019
<b>Student Volunteer</b> <i>Elm in the Spring Conference.</i> Chicago, IL, April 2019.	2019
<b>Student Volunteer</b> <i>International Conference on Functional Programming (ICFP).</i> St. Louis, MO, September 2018.	2018

## Other Activities

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<b>Oregon Programming Languages Summer School</b> Topic: <i>Foundations of Probabilistic Programming and Security.</i>	2019
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