

Dustin Jamner

Boston, MA

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github.com/DIJamner

Education

- Massachusetts Institute of Technology.** Cambridge, MA September 2020 - Present
Department of Electrical Engineering & Computer Science
PhD student in Computer Science
- Massachusetts Institute of Technology.** Cambridge, MA May 2022
Department of Electrical Engineering & Computer Science
Master of Science in Electrical Engineering and Computer Science
- Northeastern University.** Boston, MA May 2020
Khoury College of Computer Sciences
Bachelor of Science in Computer Science
Minor in Mathematics
GPA/Honors: 3.9/4.0, Honors Program, Dean's List (all semesters)
- Oregon Programming Languages Summer School.** Eugene, OR July 2017
An intensive two-week lecture series on foundational concepts and research in programming languages

Experience

- Amazon Web Services* Seattle, WA.
Applied Scientist Intern June - September 2022
Worked on reasoning tools for automatically checking critical properties of existing service code.
- Northeastern University.* Boston, MA.
Research Assistant (Full-Time) Summer 2016, January - July 2017, January - June 2019
Solved a decade old open problem by developing the first proof of parametricity, an information hiding property, for a polymorphic, gradual language. In subsequent work, designed a novel language and proved both parametricity and graduality for it via translation to a static language and a logical relation on target terms.
- Teaching Assistant** September 2016 - December 2019
Software Development (Fall 2019): Graded students' in-class code reviews and homework and held office hours.
Programming Languages (Fall 2018, Spring 2020): Held office hours, graded homework, exams, and students' in-class code reviews, and proctored exams.
Logic and Computation (Fall 2016, Spring 2017, Summer 2017, Fall 2017, Spring 2019): Led students' lab sections reviewing course material and supervised other teaching assistants. Created homework assignments and proofread the instructor's assignments. Held office hours and graded homework and exams.
- The Charles Stark Draper Laboratory, Inc.* Cambridge, MA.
Formal Methods Developer January - July 2018
Implemented a value-set static analysis for binaries (https://github.com/draperlaboratory/cbat_tools).
Proved a disassembly target language type-safe in the Coq proof assistant.
- Promenade Software.* Irvine, CA.
Software Development Intern July - August 2014, July - August 2016
Implemented a Python scripting system within a web interface for medical devices in the Parlay software package (<https://promenadesoftware.com/parlaytm>).

Papers

- Clément Pit-Claudel, Jade Philipoom, Dustin Jamner, Andres Erbsen, Adam Chlipala.
Relational Compilation for Performance-Critical Applications.
In *the ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI '22)*. San Diego, California, USA. June 2022.
- Max New, Dustin Jamner, and Amal Ahmed.
Graduality and Parametricity: Together Again for the First Time.

In the 47th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL '20). New Orleans, Louisiana, United States. January 2020.

3. Chris Casinghino, Michael Dixon, Jt Paasch, Cody Roux, John Altidor and Dustin Jamner.
Using Binary Analysis Frameworks: The Case for BAP and angr.
In the 11th Annual NASA Formal Methods Symposium (NFM 2019). Houston, Texas, USA. May 2019.
4. Amal Ahmed, Dustin Jamner, Jeremy Siek, and Philip Wadler.
Theorems for Free for Free: Parametricity With and Without Types.
In the 22nd ACM SIGPLAN International Conference on Functional Programming (ICFP '17), Oxford, UK, September 2017.

Awards

National Science Foundation Graduate Research Fellowship	2020
Robert M. (1941) and Jacqueline M. Fano Fellowship, MIT	September 2020 - May 2021
Khoury Research Award, Northeastern University	May 2020
Summer Scholars Independent Research Fellowship, Northeastern University	July - August 2019
Provost's Advanced Research/Creative Endeavor Award, Northeastern University	May 2016
Dean's Scholarship, Northeastern University	September 2015 - April 2020

Invited Talks

Introduction to Category Theory <i>Guest Lecture, Advanced Topics in Mathematics</i> Presented an introductory lecture on category theory for students studying basic group theory.	Sage Hill School, January 2018
Relational Parametricity for the Polymorphic Blame Calculus <i>Northeastern University Programming Language Seminar</i> Presented research on proving parametricity for a gradually typed language with polymorphism.	Northeastern University, June 2017
Abstract Interpretation via Galois Connections <i>Guest Lecture, Advanced Topics in Mathematics</i> Presented Galois connections and their use in soundly approximating uncomputable properties.	Sage Hill School, March 2017
Introduction to Constructive Logic and Type Theory <i>Guest Lecture, Advanced Topics in Mathematics</i> Presented introductory material on constructive logic and basic type theory.	Sage Hill School, March 2016

Service And Mentorship

Undergraduate Research Opportunity Mentor Mentored an undergraduate researcher and guided them through contributing meaningful improvements to my primary research project.	MIT, Spring 2022-Present
Graduate Application Assistance Program Mentor Mentored a total of 7 students from underrepresented groups in preparing their graduate applications to MIT.	MIT, Fall 2020, Fall 2021, Fall 2022
Honors Alumni Mentor Mentored 2 undergraduate students in 2020 and 1 in 2021, including discussing preparation for graduate school and the tradeoffs between academic and industry careers.	Northeastern University, 2020-2022