Dustin Jamner

Boston, MA

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github.com/DIJamner

Education

Massachusetts Institute of Technology. Cambridge, MA   Beginning Fall 2020
Department of Electrical Engineering & Computer Science
Candidate for Doctor of Philosophy in 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

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

1. Max New, Dustin Jamner, and Amal Ahmed.
   Graduality and Parametricity: Together Again for the First Time.
   To appear in *47th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL '20)*. New
   Orleans, Louisiana, United States. January 2020.

2. Chris Casinghino, Michael Dixon, Jt Paasch, Cody Roux, John Altidor and Dustin Jamner.
   Using Binary Analysis Frameworks: The Case for BAP and angr.
   To appear in *11th Annual NASA Formal Methods Symposium (NFM 2019)*. Houston, Texas, USA. May 2019.

3. Amal Ahmed, Dustin Jamner, Jeremy Siek, and Philip Wadler.
   Theorems for Free for Free: Parametricity With and Without Types.
   In *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 Sage Hill School, January 2018
Guest Lecture, Advanced Topics in Mathematics
Presented an introductory lecture on category theory for students studying basic group theory.

Relational Parametricity for the Polymorphic Blame Calculus Northeastern University, June 2017
Northeastern University Programming Language Seminar
Presented research on proving parametricity for a gradually typed language with polymorphism.

Abstract Interpretation via Galois Connections Sage Hill School, March 2017
Guest Lecture, Advanced Topics in Mathematics
Presented Galois connections and their use in soundly approximating uncomputable properties.

Introduction to Constructive Logic and Type Theory Sage Hill School, March 2016
Guest Lecture, Advanced Topics in Mathematics
Presented introductory material on constructive logic and basic type theory.