

## 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](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, <i>MIT</i>	2020
Summer Scholars Independent Research Fellowship, <i>Northeastern University</i>	July - August 2019
Provost's Advanced Research/Creative Endeavor Award, <i>Northeastern University</i>	May 2016
Dean's Scholarship, <i>Northeastern University</i>	2015 - 2020

## Invited Talks

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