Dustin Jamner

Boston, MA

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github.com/DIJamner

Education

Northeastern University. Boston, MA   May 2020 (Expected)

College of Computer and Information Science

Candidate for Bachelor of Science in Computer Science

    Relevant Classes: *graduate:* Types, Contracts, Gradual Typing, and Compiler Correctness, Algorithms, Static Analysis of Software   *undergraduate:* Compilers, Computer-Aided Reasoning, Software Development, Networks and Distributed Systems, Object-Oriented Design, Advanced Technical Writing, Computer Systems, Group Theory, Real Analysis, Theory of Computation

    GPA/Honors: 3.8/4.0, Honors Program, Provost's Advanced Research/Creative Endeavor Award, Dean's List (Fall 2015, Spring 2016, Fall 2016, Fall 2017, Fall 2018)

Oregon Programming Languages Summer School. Eugene, OR   July 2017

    An intensive two-week lecture series on foundational concepts and research in programming languages

Sage Hill School. Newport Beach, CA   May 2015

Relevant Classes: Advanced Topics in Mathematics, Calculus III, AP Physics C, Engineering

Experience

Northeastern University. Boston, MA.

Research Assistant   Summer 2016, January - July 2017, January - June 2019

- Coauthored a paper presented at ICFP 2017 (DOI: 10.1145/3110283) with advisor Amal Ahmed and colleagues Jeremy Siek at Indiana University and Philip Wadler at University of Edinburgh

- Developed programming language semantics and proved safety and reasoning properties

- Reworked and simplified a compositional compiler and proofs of its correctness

Teaching Assistant, Logic and Computation   January - April 2019

- Led students' lab sections reviewing course material and supervised other teaching assistants

Teaching Assistant, Programming Languages   September - December 2018

- Held office hours, graded homework assignments and exams, and proctored exams

Tutor, Logic and Computation   September 2016 - June 2017, September - December 2017

- Led students' lab sections reviewing course material and supervised other teaching assistants

- Created homework assignments and proofread the instructor's assignments

The Charles Stark Draper Laboratory, Inc. Cambridge, MA.

Formal Methods Developer   January - July 2018

- Implemented a value-set static analysis for binaries (`github.com/draperlaboratory/cbat_tools`)

- Proved a disassembly target language type-safe in the Coq theorem-prover

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 ParlayUI software package (`github.com/PromenadeSoftware/ParlayUI`)

References provided upon request

Papers

1. 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.

2. 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.

Invited Talks

Introduction to Category Theory   Sage Hill School, January 8 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 23 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 8 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 7 2016
Guest lecture, Advanced Topics in Mathematics
- Presented introductory material on constructive logic and basic type theory

Computer Knowledge

Programming Languages: *Proficient in:* Java, Haskell, Python, OCAML, Typed Racket, Racket, JavaScript/HTML/CSS, MIPS and NASM Assembly, Coq   *familiar with:* ACL2, C, Rust, Go

Software Skills: Git, Web2Py, Twisted, JQuery, Bootstrap, LaTeX, UNIX (OS X/Linux), Angular