

JONATHAN SCHUSTER

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OBJECTIVE

Use my combination of academic and industrial experience to bring cutting-edge computer science research into the real world.

EDUCATION

Northeastern University September 2011–Present
Ph.D. in Computer Science (expected early 2019) *Boston, MA*

Research: Actor-based programming languages and related verification tools

Advisor: Olin Shivers

Committee: Matthias Felleisen, Amal Ahmed, Jon Rossie

Dissertation Work:

- Developed a language for formally specifying communication protocols.
- Designed and implemented a model checker capable of determining whether an actor-based program satisfies its specification. The tool was able to find bugs in several programs based on real-world distributed systems.

University of Notre Dame August 2003–May 2007
B.S. in Computer Science, *Magna Cum Laude* *Notre Dame, IN*

Member of Tau Beta Pi Engineering Honor Society

Member of Upsilon Pi Epsilon Computer Science Honor Society

Major GPA: 3.89/4.0 • Overall GPA: 3.79/4.0

WORK EXPERIENCE

Cisco Systems, Inc. May–July 2012
Research Intern *Research Triangle Park, NC*

- Developed a formal semantics for an internal domain-specific programming language then under development. This work later inspired my Ph.D. research topic.

Clarity Consulting, Inc. July 2007–August 2011
Software Consultant *Chicago, IL*

- Developed custom software applications in the .NET Framework for clients in a wide variety of industries, including Microsoft, Facebook, McDonald's, Follett college bookstores, and the Chicago 2016 Olympic Committee.
- Wrote the official Facebook application for Windows Phone 7 in a team with one other full-time and two part-time developers. Application was created in two months with near feature parity to the two-year-old iPhone application, plus extra features not found on the iPhone.
- Took the initiative to lead the CSS styling of a public-facing client web site. Wrote the page structure for various page templates and many individual pages, and assisted other developers in creating pages to create a consistent, easily maintainable look across the site. According to project leader, my leadership was crucial to the project's success.
- Redesigned and rewrote automated sales and inventory update process for distributed bookstore management system used in over 700 stores. Decreased XML data size by over 50% and significantly reduced number of database updates to improve process performance.

TEACHING EXPERIENCE

Northeastern University

September 2011–June 2018 (various semesters)

Teaching Assistant

Boston, MA

- Fundamentals of Computer Science I: Fall 2011, Fall 2016
- Fundamentals of Computer Science II: Spring 2012 (Head TA), Spring 2018, Summer 2018
- Compilers: Spring 2012

PUBLICATIONS

Specifying Finite-State Actors

Jonathan Schuster, Stephen Chang, and Matthias Felleisen

Technical Report NU-CCIS-TR-2015-001

Northeastern University, College of Computer and Information Science, 2015

Presented at the *International Symposium on Web Services, Formal Methods and Behavioural Types (WS-FM/BEAT)* 2015

TALKS

Programmatic and Direct Manipulation, Together at Last

Papers We Love Meetup, Boston/Cambridge Chapter, September 2016

Specifying Finite-State Actors

International Symposium on Web Services, Formal Methods and Behavioural Types (WS-FM/BEAT), September 2015

Protocol Engineering: An Overview

Programming Languages Seminar, Northeastern University, November 2013

Smalltalk

PL Jr. Seminar, Northeastern University, July 2013

Liberating Routers: OpenFlow and Software-Defined Networking

Ph.D. Student Seminar, Northeastern University, August 2012

Taxonomy of Types

PL Jr. Seminar, Northeastern University, November 2011

SERVICE AND HONORS

- Northeastern University Dissertation Completion Fellowship recipient
- Led a group at Northeastern to create a college-wide public repository for technical reports.
- Organized a day of activities and information sessions for prospective Ph.D. students.
- Ph.D. Student Seminar organizer (2011–2012 academic year)
- Programming Research Lab webmaster (August 2013–September 2016)
- Winner of Clarity Consulting Top Coder algorithm challenge
- Eagle Scout