

## Experience

### Software Engineer, Airbnb *February 2015 - Present*

- Defined Airbnb's long-term continuous integration (CI) vision and currently lead the development of its container-based CI infrastructure—ask me about it!
- Drove the mass deprecation of the previous CI system across 430 repositories
- Designed and built a automated pipeline to track test reliability, contact stakeholders, and ultimately disable flaky tests. My work drove the build failure rate down from 30% down to < 1%.

### Software Engineering Intern, Dropbox *Summers 2012 and 2013*

- Prototyped an enterprise product that became *Dropbox Business*
- Revamped the photo thumbnailing infrastructure to optimize compute cost and improve image metadata handling

### Teaching Assistant, MIT 6.170 Software Studio *Fall 2012*

- Developed the curriculum, prototyped projects, and graded student work
- Led recitation section and held weekly office hours

### Research Assistant *2011 - 2012*

The Julia Project, MIT CSAIL

- Implemented a web-based REPL interface and data visualization functionality, a critical component of the project's technical computing strategy

### Software Engineering Intern, Panjiva *Summer 2011*

- Developed and shipped a modular user portal composed of interactive dashboard widgets
- Designed and implemented a verification stage in the deployment pipeline improve site stability

## Education

### Massachusetts Institute of Technology

M.Eng. Electrical Engineering and Computer Science, February 2016

B.Sc. Electrical Engineering and Computer Science, June 2013

*Coursework* – Artificial Intelligence, Machine Learning, Program Analysis, Parallel Computing, Probabilistic Systems Analysis, Software Construction, Computation Structures, Algorithms, Discrete Mathematics, Computer Systems Engineering, Theory of Computation, Computer Graphics, Cryptography and Cryptanalysis, Advanced Data Structures

## Skills

Knowledgeable about: continuous integration, containerization, developer tooling, distributed systems, programming language theory, functional programming, type systems, formal verification

Other skills: conference speaking, technical mentorship, user interface design

Languages: C, C++, CSS, Coq, HTML, Haskell, Java, JavaScript, Python, Rust, SQL, Ruby

## Selected personal projects

Formally verified soundness proof for System F (one of only a few in existence)

Other machine-checked proofs: the Kleene fixed-point theorem, the soundness of the simply typed lambda calculus, and a category theory formalization

Hashpass: a stateless password manager

Kitestring: personal safety app (95,000 registered users)

Netflix Party: Chrome extension for group Netflix viewing events (160,000 weekly active users)

Real-time 3-D raytracer in JavaScript

Human-operable electric self-balancing unicycle

## Awards and recognitions

1st Place, MIT's Web Programming Competition (6.470)

*CoolComply*, a solar powered refrigeration device for storing and monitoring MDR-tuberculosis medication, won the \$100,000 Harvard Catalyst Pilot Grant

Personal projects featured in high-profile media outlets including *TechCrunch*, *Mashable*, *Engadget*, *TIME*, *The Discovery Channel*, *The Boston Globe*, *The Huffington Post*, et. al.