

# Jesse A. Tov

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Citizenship: USA

## Interests

Programming languages, programming pedagogy, practical language design, type systems, part-time programmers

## Appointments

- 2015–2017 *Lecturer*, Electrical Engineering and Computer Science, McCormick School of Engineering, Northwestern University
- 2014–2015 *Lecturer*, College of Computer and Information Science, Northeastern University
- 2014 *Lecturer on Computer Science*, School of Engineering and Applied Sciences, Harvard University
- 2012–2014 *Postdoctoral Fellow*, School of Engineering and Applied Sciences, Harvard University
- 2005–2007, 2011 *Research Assistant*, College of Computer and Information Science, Northeastern University
- 2007–2010 *Teaching Assistant*, College of Computer and Information Science, Northeastern University
- 2004–2007 *Teaching Fellow*, Division of Engineering and Applied Sciences, Harvard University

## Education

- 2012 PH.D. in Computer Science, Northeastern University  
Thesis title: *Practical Programming with Substructural Types*  
Advisor: Riccardo Pucella  
Committee: Matthias Felleisen, Matthew Fluet, Mitchell Wand
- 2007 M.S. in Computer Science, Northeastern University
- 2003 A.B. *cum laude* in Computer Science, Harvard College

## Publications & Talks

### CONFERENCES

- 2013 Silviu Chiricescu, André DeHon, Delphine Demange, Suraj Iyer, Aleksey Kliger, Greg Morrisett, Benjamin C. Pierce, Howard Reubenstein, Jonathan M. Smith, Gregory T. Sullivan, Arun Thomas, **Jesse Tov**, Christopher M. White, and David Wittenberg. *SAFE: A Clean-Slate Architecture for Secure Systems* In *Proc. IEEE International Conference on Technologies for Homeland Security (HST)*.
- 2011

- Jesse A. Tov** and Riccardo Pucella. [A Theory of Substructural Types and Control](#). In *Proc. ACM International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*.
- Jesse A. Tov** and Riccardo Pucella. [Practical Affine Types](#). In *Proc. 38th ACM Symposium on Principles of Programming Languages (POPL)*.
- 2010 **Jesse A. Tov** and Riccardo Pucella. [Stateful Contracts for Affine Types](#). In *Proc. 19th European Symposium on Programming (ESOP)*.
- 2008 Riccardo Pucella and **Jesse A. Tov**. [Haskell Session Types With \(Almost\) No Class](#). In *Proc. 1st ACM SIGPLAN Symposium on Haskell*.

#### WORKSHOPS

- 2014 Edward Gan, **Jesse A. Tov**, and Greg Morrisett. [Type Classes for Lightweight Substructural Types](#). In *Third International Workshop on Linearity*.
- 2012 **Jesse A. Tov** and Elizabeth J. Tov. [Taking Part-Time Programmers Seriously](#). In *Off the Beaten Track: Underrepresented Problems for Programming Language Researchers*.
- 2008 Alec Heller and **Jesse A. Tov**. [Caml-Shcaml: An OCaml Library for Unix Shell Programming](#). In *Proc. ACM SIGPLAN Workshop on ML*.

#### SELECTED TALKS

- 2013 [Tempest: A Low-Level Language For a SAFE Machine](#). At the NJ Programming Languages and Systems Seminar, November 15, 2013.
- 2012 Practical Programming with Affine Types. Mozilla, July 19, 2012.  
 Practical Programming with Affine Types. Quora, July 17, 2012.  
 Practical Programming with Affine Types. Stanford Software Seminar, July 16, 2012.
- 2011 A Theory of Substructural Types and Control. Harvard University PL Seminar, October 19, 2011.  
[Implicit Arrow Annotations in Alms](#). New England Programming Languages and Systems Symposium (NEPLS), March 4, 2011.
- 2009 [A Model of Functional Traversal-Based Generic Programming](#) (on behalf of Bryan Chadwich and Karl Lieberherr). Symposium in Honor of Mitchell Wand, August 23, 2009.

#### Teaching

##### COURSES TAUGHT

- 2017 “Concurrent Programming in Rust,” Northwestern University (30 students)  
 “Fundamentals of Computer Programming I,” Northwestern University (86 students)  
 “Fundamentals of Computer Programming II,” Northwestern University (160 students)

- “Programming for Engineers,” Northwestern University (51 students)
- 2016 “Data Structures,” Northwestern University (89 students)
- “Intensive Program Design,” co-instructor with Robby Findler, Northwestern University (7 students)
- “Fundamentals of Computer Programming I,” Northwestern University (66 students)
- “Programming for Engineers,” Northwestern University (59 students)
- “Concurrent Programming in Rust,” Northwestern University (23 students)
- “Programming for Engineers,” Northwestern University (66 students)
- 2015 “Data Structures,” Northwestern University (76 students)
- “Intensive Program Design,” co-instructor with Burke Fetscher, Northwestern University (32 students)
- “Object-Oriented Design,” Northeastern University
- “Building Extensible Systems,” co-instructor with Matthias Felleisen, Northeastern University (14 students)
- “Object-Oriented Design,” Northeastern University (97 students)
- 2014 “Object-Oriented Design,” Northeastern University (143 students)
- “Introduction to Computer Science II,” Harvard University (333 students)
- 2010 “Fundamentals of Computer Science I,” Northeastern University (44 students)
- 2008 “Compilers,” Northeastern University (8 students)

#### OTHER TEACHING EXPERIENCE

- 2007–2010 Teaching Assistant, “Principles of Programming Languages” (2007), “Logic and Computation” (2009), “Fundamentals of Computer Science I” (2009), “Program Design Paradigms” (2008, 2010), Northeastern University
- 2004–2007 Teaching Fellow, “Introduction to Computer Science II” (2004, 2005, 2007), Harvard University

#### Additional Work Experience

- 2006 *Intern*, U.S. Navy Fleet Numerical Meteorology and Oceanography Center, Monterey, Calif.
- 2005 *Founder*, Simmetry Axe (Y-Combinator-funded startup), Cambridge, Mass.
- 2004 *Software Engineer*, NexPlan, Redwood City, Calif.
- 2004 *Junior Developer*, ActBlue, Cambridge, Mass.
- 2001–2004 *New Media Manager*, Let’s Go Publications, Cambridge, Mass.
- 2001 *Junior Systems Administrator*, Harvard University EECS, Cambridge, Mass.
- 2000–2002 *Web Intern*, Harvard University Freshman Dean’s Office, Cambridge, Mass.
- 2000 *Technical Support Intern*, EMUmail, Cambridge, Mass.

## Awards

- 2009 Teaching Award, College of Computer and Information Science Graduate School, Northeastern University
- 2007 Certificate of Distinction in Teaching, Derek Bok Center for Teaching and Learning, Harvard University

## Professional Service

### PROGRAM COMMITTEE MEMBER

- 2014 International Conference on Functional Programming (ICFP)
- 2013 ML Workshop

### REVIEWER

- 2016 *Journal of Functional Programming*
- 2015 *Journal of Functional Programming*  
*New Generation Computing*
- 2014 *Journal of Functional Programming*
- 2013 European Symposium on Programming (ESOP)
- 2012 Conference on Interactive Theorem Proving (ITP)
- International Conference on Availability, Reliability, and Security (ARES)
- Conference on Object-Oriented Programming, Systems, Languages & Applications (OOPSLA)
- 2010 Symposium on Trends in Functional Programming (TFP)
- 2009 Haskell Symposium
- 2008 International Conference on Functional Programming (ICFP)