Jesse A. Tov

Computer Science & Engineering
2233 Tech Drive
Seeley Mudd, Floor 3
Evanston, Illinois 60208

+1 (757) 695–8687
jesse@eecs.northwestern.edu
eecs.northwestern.edu/~jesse
Citizenship: USA

Interests

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

Appointments

2017–2019	*Assistant Professor of Instruction*, Electrical Engineering and Computer Science, McCormick School of Engineering, Northwestern University
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

2019	Spencer P. Florence, Shu-Hung You, **Jesse A. Tov,** and Robby Findler. A Calculus for Esterel: If can, can. If no can, no can. In *Proc. 46th ACM Symposium on Principles of Programming Languages (POPL)*.

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

2018   A #lang for Data Structures Students. At RacketCon, September 29, 2018.

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

2019 "Fundamentals of Computer Programming I," Northwestern University (∼83 students)

"Systems Programming in Rust," Northwestern University (∼28 students)

"Fundamentals of Computer Programming II," Northwestern University (121 students)

"Programming for Engineers," Northwestern University (20 students)

2018 "Data Structures," Northwestern University (95 students)

"Intensive Program Design," co-instructor with Robby Findler, Northwestern University (8 students)

"Fundamentals of Computer Programming I," Northwestern University (80 students)

"Systems Programming in Rust," Northwestern University (26 students)

"Fundamentals of Computer Programming II," Northwestern University (155 students)

"Programming for Engineers," Northwestern University (36 students)

"Type Systems," Northwestern University (15 students)

2017 "Data Structures," Northwestern University (90 students)

"Intensive Program Design," co-instructor with Robby Findler, Northwestern University (12 students)

"Concurrent Programming in Rust," Northwestern University (29 students)

"Fundamentals of Computer Programming I," Northwestern University (56 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*, Simmery 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

2018–2019 Faculty and Administrator Honor Roll, Associated Student Government, Northwestern University

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

Institutional Service

2017–2019 Advisor, .dev (student software development club)

2017-2018 Member, C.S. Faculty of Instruction search committee

2017–2019 Member, Software Development M.S. steering committee

<u>Professional Service</u>

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)