Jean Yang

32 Vassar Street, 32-G714
Cambridge, MA 02139
✉ jeanyang [at] csail [dot] mit [dot] edu
jeanyang.com

Education

2010–present **Ph.D. computer science**, *Massachusetts Institute of Technology*, Cambridge, MA, USA.
Advised by Armando Solar-Lezama. Interested in programming languages and security. Thesis: "A Framework for Automatically Enforcing Information Flow Policies."

2008–2010 **M.S. computer science**, *Massachusetts Institute of Technology*, Cambridge, MA, USA.
Advised by Armando Solar-Lezama. Thesis: "Specification-Enhanced Programming."

2004–2008 **A.B. computer science**, *Harvard University*, Cambridge, MA, USA.
Graduated *Magna Cum Laude*. Senior thesis: "Safe Dynamic Dispatch, or How to Pickle with Class."

1997–2004 **Secondary school**, *The Ellis School*, Pittsburgh, PA, USA.

Publications

Nikhil Swamy, Juan Chen, Cédric Fournet, Pierre-Yves Strub, Karthikeyan Bhargavan, and Jean Yang. **Secure distributed programming with value-dependent types**. Journal of Fucntional Programming, 2013.

Thomas H. Austin, Jean Yang, Cormac Flanagan, and Armando Solar-Lezama. **Faceted Execution of Policy-Agnostic Programs**. Programming Languages and Security 2013.

Jean Yang, Kuat Yessenov, and Armando Solar-Lezama. **A Language for Automatically Enforcing Privacy Policies**. Principles of Programming Languages 2012.

Jean Yang and Chris Hawblitzel. **Safe to the Last Instruction: Automated Verification of a Type-Safe Operating System**. Communications of the Association for Computing Machinery, December 2011.

Nikhil Swamy, Juan Chen, Cédric Fournet, Pierre-Yves Strub, Karthikeyan Bharagavan, and Jean Yang. **Secure Distributed Programming with Value-Dependent Types**. International Conference on Functional Programming 2011.

Jean Yang and Chris Hawblitzel. **Safe to the Last Instruction: Automated Verification of a Type-Safe Operating System**. Programming Languages Implementation and Design 2010. **Best paper award.**

Invited talks

Jeeves: A Language for Enforcing Privacy. Facebook - Menlo Park (March 2012); Google - Mountain View (April 2012); University of California, Berkeley (April 2012); Brown University (June 2012); Tufts University (Colloquium, Dec. 2012).

A Language for Automatically Enforcing Privacy Policies. New York University (April 2011); Google - New York (July 2011); Northeastern University (Dec. 2011); Harvard University (Dec. 2011).

Academic honors

- **Levine Fellowship**, 2014-2015.
- **Facebook Fellowship**, 2012-2013.
- **National Science Foundation Graduate Research Fellowship**, 2008-2011.
- Member, **Phi Beta Kappa** honor society, inducted May 2008.

Positions held

Industry

Summer 2012 **Software Engineering Intern**, *Facebook, Inc.*, Menlo Park, CA.
Worked on experimental verification techniques for backend privacy.

Summer 2008 **Software Engineering Intern**, *Peerium, Inc.*, Cambridge, MA.
Worked at start-up creating a dependently typed functional language written in Haskell. Created parser for core language; wrote compiler optimizations; worked on GUI libraries.

Summer 2007 **Software Engineering Intern**, *Google, Inc.*, Santa Monica, CA.
Completed standalone project on video search team using C++. Received full-time offer.

Summer 2005 **Software Development Intern**, *Mellon Financial*, Pittsburgh, PA.
Worked on data mapping and management project using SQL and ColdFusion.

Research

Summer 2010 **Research Intern, Programming Languages and Analysis Group**, *Microsoft Research*, Redmond, WA.
Worked on extending Fine, a security-typed language, to support secure marshalling and cryptographic proofs.

Summer 2009 **Research Intern, Operating Systems Group**, *Microsoft Research*, Redmond, WA.
Worked on building an operating system kernel verified for type-safety using Boogie and C#.

Summer 2006 **Research Intern**, *Computational Biology Initiative, Harvard Medical School*, Boston, MA.
Developed and implemented computational processes for tracing evolution and coevolution of presynaptic receptors.

Teaching

Fall 2012 **Recitation Instructor, Elements of Software Construction**, *Massachusetts Institute of Technology*.
Designed and taught mini-curriculum for introducing Scala to undergraduate students in course teaching concepts using Java and Python.

Fall 2010 **Teaching Assistant, Foundations of Program Analysis**, *Massachusetts Institute of Technology*.
Designed and graded assignments and held recitations for graduate-level program analysis course.

January 2010 **Instructor, C Memory Management and C++ Object-Oriented Programming**, *Massachusetts Institute of Technology*.
Designed and co-taught a for-credit January-term course for over 100 undergraduates. Prepared lectures and assignments; managed multiple graders; published materials on MIT's Open Courseware.

January 2010 **Instructor, So You've Always Wanted to Learn Haskell?**, *Massachusetts Institute of Technology*.
Designed and co-taught an January-term course introducing the Haskell language and its applications.

Spring 2008 **Teaching Fellow, Principles of Programming Languages**, *Harvard University*.
Helped with new course introducing programming languages concepts using the Coq proof assistant. Effectiveness rating 4.6/5.0. Received Certificate of Distinction in Teaching.

Spring 2007 **Teaching Fellow, Introduction to Computer Science II**, *Harvard University*.
Responsible for problem sets, exams, section, and office hours for course using Scheme and C++. Effectiveness rating 4.6/5.0; nominated for Undergraduate Council's Levenson Teaching Prize.

Fall 2006 **Teaching Fellow, Introduction to Formal Systems**, *Harvard University*.
Responsible for problem sets, exams, section, and office hours for course on computational models and complexity. Effectiveness rating 4.2/5.0. Nominated for departmental teaching award.

Fall 2005 **Course Assistant, Introduction to Calculus**, *Harvard University*.
Graded problem sets and ran weekly problem session. Effectiveness rating rating 4.4/5.0.

Service

Conference Program Committees. Principles of Programming Languages (POPL) 2015 Artifact Evaluation Committee; ML Workshop 2014.

MIT Programming Languages Seminar. Started a weekly forum for professors and students to present ideas related to programming languages. Ran seminar 2010-2011.

MIT Programming Languages/Software Engineering Research Off-site. Started annual day-long off-site retreat with six research groups. Served on planning committee 2010 and 2011, advised planning of subsequent retreats.

Graduate Women at MIT. Co-founded an institute-wide organization with 1500 members (as of spring 2012) and a budget of over $20K. Collaborated on developing constitution and mission, raising initial funding, establishing campus collaborations, and recruiting members. Served as Executive Board member from 2009 to present and Planning Co-Chair for Spring Kick-off 2010 and Empowerment Conference 2011.

Harvard Computer Science task force. Served as invited alumnus on fall 2009 task force of professors and students to improve department life for graduate and undergraduate students.

Languages

English	**Fluent**	*Lived in United States since childhood*
Mandarin	**Fluent**	*Native speaker*
French	**Proficient**	*Studied 7 years in secondary school*

Programming experience

Mainstream	C, C++, Java, Python, Scala	Logic	Prolog
Functional	Haskell, OCaml/SML, Scheme	Assembly	x86, MIPS
Verification	BoogiePL	Hardware	Verilog

Other interests

Since fall 2013 I have been running **NeuWrite Boston**, a collaborative working group of scientists and writers. We meet regularly to workshop pieces and discuss how to improve the state of science communication.