This form is to be completed by EECS graduate students upon submission of a doctoral thesis to the department.
Please attach a CV or resume...thank you.

STUDENT NAME:

CITIZENSHIP (circle)   (United States)   OTHER:

AREA (circle):   (EE)   **or**   CS

DATE of THESIS SUBMISSION:

THESIS SUPERVISOR(S):

DATE of MIT DEGREE LIST:

Please notify us of your immediate future plans, by responding to the questions below:

1. Please check the type of job you are taking within the following broad categories:

   Academic/faculty position   Financial
   Academic/researcher   Management Consulting
   Academic/postdoc   Self-Employed
   Industry   Other
   Government
   Medical   Un-Employed

2.

   If you can let us know specifically where you are going, that would be most helpful:

   Institution:

   Title:

   Location of Employment:

3. Check the area within EECS that best describes your area of employment:

   Communications   Hardware/ Architecture
   Systems, Decision and Control   Numerical Analysis/Scientific
   Signal Processing   Programming Language/Compilers
   Bioelectrical/Medical Engineering   OS/Networks
   Circuit Design   Software Engineering
   Devices and Materials   Theory/ Algorithms
   Electromagnetics and Energy   Graphics/Human Interface
   Artificial Intelligence/Robotics   Database/Information Systems
        Other:

THANK YOU, and ALL GOOD WISHES!

Jason Gross

jgross@mit.edu — (631) 790-8962 — `http://people.csail.mit.edu/jgross/`

PRESENT ADDRESS	PERMANENT ADDRESS
258 Prospect Street, Apt # 1L	126 Hayrick Lane
Cambridge, MA 02139	Commack, NY 11725

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA
Began Doctorate of Philosophy in Computer Science in September 2013
Research Interests: Homotopy Type Theory, Category Theory, Program Synthesis, Type Theory
Current G.P.A. 4.9/5.0

Bachelor of Science in Mathematics and Physics, June 2013
G.P.A. 4.6/5.0

Coursework:
- Computer Science: Inference and Information, Computer Systems Security, Geometric Computing, Foundations of Program Analysis, Performance Engineering of Software Systems, Structure and Interpretation of Computer Programs
- Mathematics: Paradox and Infinity, Category Theory for Scientists, Algebraic Topology I, Seminar in Topology, Introduction to Topology, Real Analysis, Abstract Algebra I & II, Differential Equations, Calculus I & II, Linear Algebra
- Physics: Modern Astrophysics, General Relativity (Graduate), Statistical Physics I & II, Quantum Physics I, II, & III, Classical Mechanics II, Waves and Vibrations, Special Relativity and the Physics of Spacetime
- Other Sciences: Introductory Biology, Introductory Chemistry, Design a Concentrated Solar Power Water Heater (seminar)
- Other: The Art and Science of Happiness, Metaphysics, Introduction to Musical Composition, Capitalism and Its Critics, Moral Psychology, Philosophy of Quantum Mechanics, Moral Problems and the Good Life, Philosophy of Love, Kaufman Teaching Certificate Program

EXPERIENCE

MIT   September 2013–Present
Researcher   Cambridge, MA
- Researching program synthesis and verification with Adam Chlipala
- Collaboratively working on implementing one of the world's first algorithm-level-optimizing compilers
- Collaboratively implemented proven-correct crypto code now used by Google Chrome

Machine Intelligence Research Institute   June 2019–August 2019
Type Theory Intern   Berkeley, CA
- Worked on formalizing type theories and on proving things within proof assistants

Google   June 2018–August 2018
Software Engineering Intern   Cambridge, MA
- Worked with BoringSSL on integration of proven-correct low-level ECC primitives into Chrome

Google   June 2016–September 2016
Software Engineering Intern   Mountain View, CA
- Formalized low-level ECC primitives with proofs of correctness

MIT   Fall 2009–Present

Teacher   Cambridge, MA
- Taught classes on LaTeX, philosophy, linear algebra, and quantum mechanics for MIT Educational Studies Program's Splash, Spark, and Summer HSSP (High School Studies Program)
- Teaching Assistant for 8.012 (Physics I) and 8.022 (Physics II) in Experimental Study Group

MIT   September 2015–December 2015
TA for 6.172 (Performance Engineering)   Cambridge, MA
- Created and led recitations, taught students, and helped run class
- Analyzed and explained assembly output of `gcc -O3` to teach vectorization

MIRI   June 12–14, 2015
Decision Theory Workshop Attendee   Berkeley, CA
- Formalized various versions of Löb's theorem in Agda and Coq
- Learned about and worked on problems on the frontiers of decision theory

Microsoft Research   June 2014–August 2014
Intern   Cambridge, United Kingdom
- Created a language for specifying input/output behavior of x86 assembly programs with Andrew Kennedy and Nick Benton; Verified the I/O behavior of a number of simple programs
- Improved automation of the x86proved library

MIT   April 2012–June 2014
Researcher   Cambridge, MA
- Entered a significant amount of category theory into the automated proof assistant Coq (`https://github.com/HoTT/HoTT/tree/master/theories/categories`)
- Working on building an interface for databases and database migration on top of category theory in Coq with David Spivak and Adam Chlipala
- Presented "Building Database Management on top of Category Theory in Coq", January 25, 2013, POPL 2013: 40th ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages
- Presented "Experience Implementing a Performant Category-Theory Library in Coq", July 14, 2014, Interactive Theorem Proving 2014 Conference

MIT CSAIL   November 2009–September 2011
Researcher   Cambridge, MA
- Designed from scratch a data collection webpage, collected data for, and helped with research of Brenden Lake, Ruslan Salakhutdinov, and Josh Tenenbaum, on categorical and transfer learning (`http://jgross.scripts.mit.edu/alphabets/`).
- Co-author of "One shot learning of simple visual concepts" published in *Proceedings of the 33rd Annual Meeting of the Cognitive Science Society*.

MIT OCW   May–August 2010
                                                                   Cambridge, MA
- Evaluated and categorized videos of Walter Lewin solving physics problems for updating the 8.01 (Physics I) OpenCourseWare (OCW) website.

Commack High School   Fall 2006–Summer 2009
Independent Researcher   Commack, NY
- Independently researched circuits over sets of natural numbers for three years.
- Won fourth place award in mathematics in ISEF (Intel International Science and Engineering Fair) in 2009, third place award in ISEF 2008.

Turnpike Total Appliance   Fall 2006–Summer 2009

Web Page Designer   Commack, NY
- Designed and improved main company website, took initiative to make more improvements.

Computer Skills
- Proficient skills – Coq, TeX macro language, Mathematica, git, Python, JavaScript, BASIC
- Working knowledge – LaTeX, C, C++, Agda, Haskell, Scheme, HTML, CSS, Perl, Java
- Basic knowledge – Matlab, OCaml, Idris, Ruby, Ur/Web, x86 Assembly

Honors and Awards
- Mathematics Honor Society (Commack High School)
- Collection of 12 original K'NEX synagogue models exhibited in various museums (2004–2008)
- Graduated Cum Laude from Commack High School (June 2009)

Extracurricular Activities
- Co-maintainer of the homotopy type theory Coq repository (`HoTT/HoTT` on GitHub)
- Commiter to the SIPB BarnOwl project (`http://barnowl.mit.edu`)
- SIPB (Student Information and Processing Board) Member
- Was project leader for MITeX, an online interface for composing LaTeX
- HMMT Solutions Editor (2010)
- Canada/USA Mathcamp (Summers 2006–2009)

Interests
- Philosophy
- Programming
- Dancing, especially tango, contra, and square dancing
- Psychology
- Hiking
- MIT Mystery Hunt, Participated on Manic Sages Team, January 2008–2012

Presentations and Publications