

Jason Gross

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PRESENT ADDRESS

258 Prospect Street, Apt 1L
Cambridge, MA 02139

PERMANENT ADDRESS

126 Hayrick Lane
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

Bachelor of Science, June 2013

Major in Mathematics and Physics

Undergraduate G.P.A. 4.6/5.0

Coursework:

- Computer Science: Foundations of Program Analysis (current), Performance Engineering of Software Systems, Structure and Interpretation of Computer Programs
- Physics: Statistical Physics I & II, Quantum Physics I, II, & III, Classical Mechanics II, Waves and Vibrations, Special Relativity and the Physics of Spacetime
- 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
- 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

EXPERIENCE

MIT

April 2012–Present

Researcher

Cambridge, MA

- Entered a significant amount of category theory into the automated proof assistant Coq (<https://github.com/JasonGross/HoTT-categories>)
- Worked on building an interface for databases and database migration on top of category theory in Coq with David Spivak and Adam Chlipala

MIT CSAIL

November 2009–September 2011

Researcher

Cambridge, MA

- Designed from scratch a data collection webpage, collected data for, and helped with research 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

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 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 – BASIC, Python, Java, JavaScript, Mathematica, \TeX macro language, Coq
- Working knowledge – Agda, C, C++, Scheme, Haskell, Matlab, HTML, CSS, git, \LaTeX
- Basic knowledge – OCaml, Ur/Web

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

- Canada/USA Mathcamp (Summers 2006–2009)
- HMMT Solutions Editor (2010)
- SIPB (Student Information and Processing Board) Member
- Project leader for MITeX (<http://mitex.mit.edu/>), an online interface for composing \LaTeX
- Committer to the SIPB BarnOwl project (<http://barnowl.mit.edu>)
- Co-maintainer of the homotopy type theory Coq repository (HoTT/HoTT on github)

INTERESTS

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