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Education

- **Northeastern University** Boston, MA
  Ph.D., Computer Science (GPA 3.96), ongoing
  Specialization: Programming languages
- **Georgia Institute of Technology** Atlanta, GA
  M.S., Computer Science (GPA 3.80), May 2004
  Specialization: Programming languages and compilers
- **Georgia Institute of Technology** Atlanta, GA
  B.S., Computer Science (GPA 3.77), May 2002
  Specializations: Systems, Networking, Graphics
  Graduated with highest honors

Work History

- **Graduate Research Assistant** Nov. 2004 - Aug. 2005, Sep. 2007 - current
  Northeastern University Boston, MA
  - Worked for Matthias Felleisen on the Honu programming language, an object-oriented language that stresses programming to interfaces
  - Implemented a compiler from Honu to Scheme in Scheme for inclusion in PLT Scheme
  - Found, read and discussed past and current papers in the fields of object-oriented language design and implementation
  - Formulated operational semantics for Honu and developed a proof of type soundness
- **Graduate Teaching Assistant** Sep. 2004 - Apr. 2005, Sep. 2007 - Apr. 2008
  Northeastern University Boston, MA
  - Taught lab sections for CS U211 - Fundamentals of Computer Science I, CS U213 - Fundamentals of Computer Science II, and CS U290 - Logic and Computation
  - Graded assignments and exams
  - Held office hours to provide more individualized instruction for students
- **Software Engineer** Nov. 2005 - Feb. 2008
  Reflex Security, Inc. Atlanta, GA
  - Programmed and maintained software in C and Python for a network security sensor.
  - Investigated and implemented algorithms for detecting malicious network traffic.

  - Ported the existing software base to a platform provided by Bivio Systems.

- **Graduate Research Assistant** May 2002 - Aug. 2004
  Georgia Institute of Technology Atlanta, GA

  - Worked for Olin Shivers on the Bottom Up Beta Subsitution lambda calculus engine
  - Implemented the BUBS system in both Standard ML and C
  - Found, read and discussed past and current papers in the lambda calculus field
  - Formulated an alpha-equivalence algorithm for BUBS terms
  - Implemented opposing LC systems and ran tests to benchmark them against BUBS
  - Helped formulate and implemented hashing algorithms for BUBS terms

- **Graduate Teaching Assistant** May 2002 - May 2003, Sep. 2003 - May 2004
  Georgia Institute of Technology Atlanta, GA

  - Helped teach a variety of classes:
    * CS 2130 - Languages and Translation
    * CS 3500 - Theory I
    * CS 4400 - Introduction to Databases
  - Developed and graded assignments and exams
  - Held office hours and recitations to provide more individualized instruction for students

- **Linux Distribution Developer (Volunteer)** Jan. 2000 - July 2007
  Debian GNU/Linux

  - Packaged software for inclusion in the Debian GNU/Linux distribution
  - Discussed and voted on issues concerning the Debian Project and the distribution
  - Provided help for users of the distribution via IRC, via mailing list, and in person

Skills

Programming Languages: C, SML, Perl, Objective C, C++, Java, Lisp, Scheme, Python, Smalltalk, Haskell, Bourne and Bash shell scripting, SQL

Markup Languages: LaTeX, HTML, CSS, XHTML

Operating Systems: Mac OS X, Linux, Windows 95/98/NT/2000/XP, Solaris

Natural Languages: Fluent spoken/written English, advanced spoken/written German, intermediate spoken Japanese, basic written Japanese

Miscellaneous: strong research and implementation skills, system administration of Linux and Mac OS X systems

Research Interests

- Efficient implementation of functional programming languages
- Type theory in programming languages

References available on request.