

Timothy O'Donnell

Timothy O'Donnell
Brown University
69 Brown St., Box 5605
Providence, R.I. 02912

tim@cs.brown.edu
(201) 221 6302
<http://cs.brown.edu/people/tim>

- EDUCATION** ◇ **Brown University** Senior concentrating in Mathematics & Computer Science.
- EXPERIENCE** ◇ **D. E. Shaw Research, LLC.** *deshawresearch.com*. New York, NY.
- Summer 2008
- Hired as a Computer Science Intern to work on the problem of analyzing the many-terabyte chemical datasets produced by the lab's Molecular Dynamics simulators.
 - Designed a Domain Specific Language on top of Python for chemists to use to write data analysis scripts.
 - Implemented a runtime system that transparently compiles these scripts into Map-Reduce programs and executes them on a cluster.
- Summer 2007
- ◇ **Google Inc.** *base.google.com*. Mountain View, CA.
- Hired as a Software Engineering Intern working on the Google Base team.
 - Prototyped potential data quality improvements; devised metrics to quantify their effectiveness.
 - Implemented in C++ and Python a particular data quality improvement.
- May 2006 – May 2007
- ◇ **Amie Inc.** *amiestreet.com*. Providence, RI.
- Hired as Software Architect and first employee by the three founders; realized their vision for an online music marketplace by launching a beta within 3 months.
 - Architected a scalable platform based on FreeBSD, Apache, Mysql, Ruby, and PHP.
 - Selected, mentored and led a team of 4 programmers during the hectic startup phase.
- April 2007 – present
- ◇ **Student Programmer, Operator, Consultant (SPOC)**. Brown University.
- Worked with the CS department's professional technical staff in administrating 600 workstations and servers running Linux and Windows. Provided primary after-hours support to the department's users.
- April 2007 – May 2008
- ◇ **Mipscope: A MIPS32 Learning Environment.** *mipscope.sourceforge.net*.
- Co-developed an Open Source MIPS assembly interpreter, debugger and integrated editor, which became the CS department's primary tool for teaching assembly programming.
- January 2006 – present
- ◇ **Computer Science Department Teaching Assistant.** Brown University.
- Served as a TA for the following courses: *Operating Systems* (Head TA), *Distributed Computing Systems* (Head TA), *Software Engineering*, *Intro. to Computer Science*, *Scientific Computing*.
- COURSES** ◇ **Math:** Calculus through Multivariable, Linear Algebra, Probability, Mathematical Statistics, Abstract Algebra.
- ◇ **CS:** Graduate Seminar in Data-Intensive Computing, Graduate Seminar in Optimistic Replication, Machine Learning, Distributed Computer Systems, Operating Systems, Programming Languages, Systems Programming, Design and Analysis of Algorithms, Multiprocessor Synchronization, Computer Systems.
- *Operating Systems:* Wrote a monolithic kernel for a UNIX-like Operating System, including a simple filesystem and virtual memory.
 - *Seminar in Optimistic Replication.* Designed and implemented a Firefox extension exposing an API for writing peer to peer web applications. Devised a more space-efficient approach to Version Vectors for detecting update conflicts when network topology is known.
 - *Programming Languages:* Implemented eager and lazy interpreters for a scheme-like language.
 - *Computer Systems:* Designed and implemented an 8-bit RISC processor. Wrote a compiler for a C-like language targeting the MIPS architecture.
- SKILLS AND INTERESTS** ◇ **Programming Languages:** C, C++, Python, Java, Ruby (Rails), PHP, Scheme, JavaScript, Shell scripting, Web technologies, \LaTeX . Familiar with MIPS assembly, OCaml, Haskell and Prolog.
- ◇ **Platforms:** Linux (Debian, Ubuntu, Gentoo), FreeBSD, Windows.
- ◇ **Foreign Languages:** Intermediate in Spanish and Italian.
- ◇ **Hobbies:** Tennis, squash, amateur radio, saxophone, kite aerial photography.