

Objective

To research and develop practical tools to help teach programming and build reliable systems. I want to apply programming language theory to improve the state of educational programming environments.

Education

Bachelor of Science (BS) in Electrical Engineering and Computer Science (EECS) in May 2001 at the University of California, Berkeley. Currently attending Worcester Polytechnic Institute as a CS graduate student (2006–), working with Professors Dan Dougherty, Kathi Fisler, and Shriram Krishnamurthi.

Technical Skills

Extensive experience with programming languages since 1995. Experience includes: Python, Scheme, Java, Perl, C, SQL, as well as Unix administration and tools like Emacs, L^AT_EX, and Subversion.

Work Experience and Projects

- 2009– Wrote the Moby Scheme Compiler (<http://www.cs.brown.edu/~sk/Publications/Talks/Moby-Bootstrap/>), a compiler from Beginner Student Language to smartphone platforms.
- 2008 Taught for the CitizenSchools program (<http://www.citizenschools.org/>) at University Park Campus School in Worcester. I used the Bootstrap (<http://www.bootstrapworld.org/>) curriculum, which teaches math skills by having students program algebraic functions to build a computer game.
- 2007–2008 Wrote the implementation of the *Alchemy* compiler, which takes a software specification written in the Alloy language and produces an implementation. (<http://www.cs.brown.edu/~sk/Publications/Papers/Published/kdfy-alchemy-trans-alloy-spec-impl/>)
- 2006– Worked with Guillaume Marceau at Brown University for Brown PLT summer session. I released *DivaScheme*, a alternative input interface to DrScheme. (<http://www.cs.brown.edu/research/plt/software/divascheme/>) I am currently the core maintainer of DivaScheme.
- 2002–2005 Co-organized the Bay Area Python Interest Group (<http://baypiggies.net>). I arranged speakers to discuss the Python programming language.
- 2001–2006 Software developer at the Carnegie Institution of Washington. I wrote database-driven web sites and data analysis programs, including the Pubsearch digital publication library project (<http://pubsearch.org>). I contributed to the GMOD sourceforge project. (<http://gmod.sourceforge.net>)
- 2001 CS3 Teaching Assistant. I led discussions in UC Berkeley's introductory Scheme class (CS3), answered questions in office hours, wrote homework and laboratory solutions, and maintained the computer labs.
- 2000 Software Developer for [medbiz.com](http://www.medbiz.com) (<http://www.medbiz.com>). I helped develop [medbiz.com](http://www.medbiz.com)'s web site using the IBM Websphere Commerce Suite. The experience included: implementing business logic with C++ and IBM's Net.Data, writing Secure Socket Layer (SSL) scripts, and developing SQL database programs.
- 2000– Python Tutor. Tutoring for the python-help@python.org and tutor@python.org mailing lists. (<http://mail.python.org/mailman/listinfo/python-help/>, <http://mail.python.org/mailman/listinfo/tutor/>) I provided technical support and answered questions about Python installation and program development. I also helped programmers learn about the Python standard library, and wrote

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modules to demonstrate programming techniques and style. I was one of the core mailing list administrators of Python-tutor from 2001–2006.

- 1999–2000 Group Tutor for the SPC. I taught programming to students at UC Berkeley’s Self Paced Center (SPC), tutoring the following classes: Scheme (CS3), Fortran (CS9A), C (CS9C), Advanced Scheme (CS9D), UNIX (CS9E), C++ (CS9F), and Java (CS9G). I organized help sessions, administered mailing lists for classes, and answered individual student questions.
- 1998 Software Developer. I wrote an in-house prototype implementation of the Stable Marriage Algorithm for use in the EECS Internship Program. I also wrote an in-house Exam Checkout application for Eta Kappa Nu’s (HKN’s) Exam Files department.