

C. Scott Ananian

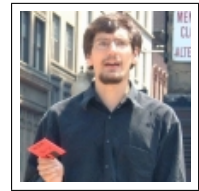
Hacker and rabble-rouser.

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Education

- 2000–2007 **Doctor of Philosophy**, *Massachusetts Institute of Technology*.
Department of Electrical Engineering and Computer Science.
Program Analysis and Compilation Group. Martin Rinard, advisor.
- 1997–2000 **Master of Science**, *Massachusetts Institute of Technology*.
Department of Electrical Engineering and Computer Science.
Thesis: *The Static Single Information Form*.
- 1993–1997 **Bachelor of Science and Engineering**, *Princeton University*.
Department of Electrical Engineering. Concentration in Computer Engineering.
Focus on operating systems and hardware design and implementation.
Certificate from the Program in Theatre and Dance. GPA: 3.98.

Doctoral thesis

- title *Architectural and Compiler Support for Strongly Atomic Transactional Memory*
- committee Prof. Martin Rinard, Prof. Charles Leiserson, Dr. Bradley Kuszmaul
- description The design and implementation of three efficient transactional memory systems: an object-oriented software-only system, a scalable system using a custom processor extension, and a hybrid of the two systems which combines the strengths of each.
See cscott.net/Publications.

Experience

- 2007–2009 **Software engineer**, *One Laptop per Child*, Cambridge, MA.
Improved the education of over 600,000 children as a Linux software generalist. Created software update system based on new copy-on-write filesystem. Implemented theft-deterrent security system. Designed new filesystem and network architectures. Prototyped next-generation desktop search system. Build manager for first OLPC production software release. Built database-backed site to record every laptop manufactured and generate cryptographic material for security system.
- 1997–present **Linux kernel hacker**, Cambridge, MA.
IPv6 RDNSS patches, fsnotify reviews. Implemented Unix98 pty support. Major early contributor to `devfs` (2.1.x kernels). Debugged/maintained port to 68k Macintosh machines (2.0.x and 2.2.x kernels). Extended power management (APM 1.2). Other bugfixes and improvements.
- 1997–present **Open source software author/maintainer**, Cambridge, MA.
Maintained CUP parser generator and JLex lexer generator tools until 2003. Wrote `pcb` auto-router, Synaptics touchpad driver (included in X.org code), PPTP for Linux, and `Sinjdoc`, a Javadoc tool (included in Red Hat Fedora). Wrote and maintain JUtil parameterized collections.
- 2004–2005 **Lead programmer**, *Verified Voting Foundation*, Cambridge, MA and San Francisco, CA.
Design and implementation of the *Election Incident Reporting System*, which collected over 43,000 incident reports during the 2004 and 2005 US elections.
See voteprotect.org.
- 1998–2007 **Primary author, FLEX Java compiler and runtime**, MIT, Cambridge, MA.
Wrote the FLEX static whole-program compiler for Java and its runtime system. Authored the vast majority of its over 290,000 lines of Java and C code. Coordinated contributions from 21 researchers, who collectively used FLEX to produce 25 published papers. *See flex.cscott.net/Harpoon.*

Skills

programming	Java, C, Python, Perl, PHP, VHDL	web standards	XHTML, CSS, JavaScript, SVG, SQL
assembly	PowerPC, ARM, SPARC, x86, 68k	microcontrollers	AVR, PIC, MC68HC11, TMS320C32
admin	Debian Linux, Apache, Tomcat	build tools	CVS, autoconf, automake, ant, Eclipse
press	L ^A T _E X, Scribus, Inkscape	fabrication	Bridgeport/Roland CNC, xccircuit, pcb
language	Spanish (intermediate)		

Selected publications

Unbounded Transactional Memory. C. Scott Ananian, Krste Asanović, Bradley C. Kuszmaul, Charles E. Leiserson, and Sean Lie. *IEEE Micro Special Issue: Top Picks from Computer Architecture Conferences*, January/February 2006.

Efficient Object-Based Software Transactions. C. Scott Ananian and Martin Rinard. In *Synchronization and Concurrency in Object-Oriented Languages (SCOOL)*, San Diego, CA, October 2005.

Data Size Optimizations for Java Programs. C. Scott Ananian and Martin Rinard. In *Proceedings of the Joint Conference on Languages, Compilers, and Tools for Embedded Systems (LCTES '03)*, San Diego, CA, June 2003.

Direct Addressed Caches for Reduced Power Consumption. Emmett Witchel, Sam Larsen, C. Scott Ananian, and Krste Asanović. In *Proceedings of the 34th Annual ACM/IEEE International Symposium on Microarchitecture (MICRO-34)*, Austin, Texas, December 2001.

TigerSHARK: A Hardware Accelerated Ray Tracing Engine. C. Scott Ananian and Greg Humphreys. In *Proceedings of the IEEE Region I Conference*. May 1996.

Criminal Code? C. Scott Ananian. *Salon* magazine, February 9, 2000.

Inside the Red Hat IPO. C. Scott Ananian. *Salon* magazine, August 13, 1999.

Awards

top pick	<i>Unbounded Transactional Memory</i> included in <i>IEEE Micro's</i> 2005 "Top Picks from Computer Architecture Conferences" issue.
honor societies	Member of Phi Beta Kappa, Tau Beta Pi, and Sigma Xi. "Outstanding Academic Achievement" from Princeton School of Engineering.

Projects and interests

transactions	Designed and implemented software, hardware, and hybrid transactional memory systems.
embedded	Built embedded systems including PiXoR modem encryption device, Chirp/Cheap DMX dongles, MicroMouse robot, laser text projector, and a StrongARM mobile vision platform.
compilers	Wrote a Java compiler, a documentation tool, and assisted with the prototype "generic Java" compiler which became Sun's Java 5.0.
activism	Lobbied Congress for voter-verifiable election systems, organized rallies in protest of the DMCA, and had a small part in exposing illegal election practices by Diebold.
books	Owner, editor, designer, and publisher of Ahuas Emigré Press.
khipu	Participant in the MIT Khipu Research Group, which is attempting computer-aided analysis of ancient South American knotted-cord artifacts.