

Jacob A. Stultz

119 Bay State Rd
Boston, MA 02215
jstultz@mit.edu

Education

Massachusetts Institute of Technology

2003 - Present

S.B. in Electrical Engineering and Computer Science in 2007

Candidate for M.Eng. in Electrical Engineering and Computer Science in 2008

Cumulative GPA: 4.7/5.0

Relevant Completed Coursework: Operating System Engineering, Computer System Architecture, Computer and Network Security, Software Engineering Laboratory, Microcontroller Project Laboratory, Computer System Engineering, Computational Structures, Introduction to Algorithms, Structure and Interpretation of Computer Programs, Circuits and Electronics, Signals and Systems, Microelectronic Devices and Circuits, Mathematics for Computer Science, Electromagnetics and Applications

Employment

VMware, Inc

Summer 2006 - Present

Investigating potential future uses of page hashes gathered by VMware ESX Server for content-based page sharing. Transparent identification of ELF and Win32 binaries running inside virtual machines. Optimization of dynamic transfer of running VMs between hosts (vMotion). Created loadable kernel modules in C, multiple simple on-disk database structures, C++ applications for Windows and Linux.

Silicon Graphics, Inc

Summer 2005

Created functional hardware simulator testing software in C++ on a Linux IA-64 platform for an FPGA-based application specific computing platform.

Skills and Experience

Experienced in C, C++

Familiar with Intel 8051 assembly, PIC, Java, PHP, SQL, Scheme

Familiar with digital and analog circuitry, microcontrolled mixed signal systems.

Familiar with various processor architectures (including MIPS, x86) and concepts (OoO execution, speculative execution, cache coherence, multithreading, virtual machines)

Designed a speed-optimized file system for caching web server applications

Designed a distributed automated file backup system for unreliable, decentralized wireless networks

Lab experience:

- Created 3D customizable pinball Java video game using OpenGL with jogl libraries with 3 others - won "Most Artistic" award
- Designed the core components of a simple RISC processor
- Created object oriented adventure game in Scheme
- Created meta-circular evaluator in Scheme
- Re-implemented core functionality of JOS exokernel.
- Created a standalone Firefox binary utilizing the TOR network, operable from a USB drive.

Activities and Interests

3 year member of MIT Varsity Alpine Ski Team

Member of Beta Theta Pi Fraternity, Beta Upsilon Chapter. Past positions held include:

President, Vice President, Recruitment Chairman, Network Administrator, House Manager, Risk Manager, Social Chairman.

Math tutor for Cambridge 8th grade students as part of MIT iMath program.