

# Gregory A. Muthler

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## **OBJECTIVE:**

To find employment in the computer industry that will challenge me. My main interests are in research on high performance and reliable computer architectures.

## **EDUCATION:**

University of Illinois at Urbana-Champaign  
M.S. Electrical Engineering, December 2004  
Ph.D. Qualification Exam Passed.  
GPA: 3.8

University of Illinois at Urbana-Champaign  
B.S. Computer Engineering, 2001  
GPA: 3.9

## **WORK EXPERIENCE:**

### **University of Illinois at Urbana-Champaign**

Research Assistant

August 2002 – December 2004

Developed several microprocessor simulators in C/C++ to closely model realistic hardware implementations as well as abstract processor models. Helped develop and support an open-source x86 to micro-operation translator, and was responsible for bringing it to a stable 1.0 release state. Performed research on single and multi-processor architectures for high-performance and reliability.

### **Intel, Portland, OR**

Computer Architecture Intern

May 2002 - August 2002

Conducted research on high-level dynamic optimizations for x86 micro-code. Coded a run-time optimizer in Intel's IA-32 simulator, identified the most useful optimizations, and discovered new opportunities for dynamic optimization. Received an outstanding rating on my summer review.

### **University of Illinois at Urbana-Champaign**

Teaching Assistant

January 2001 - May 2002

Assisted with ECE 312 (now ECE 411), Computer Organization and Design, for three semesters. Designed lab assignments, assisted students in lab, answered questions on class material, prepared tests, graded, and occasionally lectured.

Taught a lab section of ECE 249, Digital Systems Lab, for one semester. Supervised lab sessions, answered questions, graded reports, and taught design methods for digital systems.

**Motorola**, Arlington Heights, IL

Engineering Intern

May 2000 - August 2000

Investigated the inclusion of WAP Push services into standards for a 3G Cellular network. Performed analyses on several proposed standards for possible conflicts with Motorola's current and future networking solutions. Gained knowledge of the cellular infrastructure, networks, mobile IP protocols, and general standards issues.

**University of Illinois at Urbana-Champaign**

Research Assistant

October 1999 - May 2000

Conducted introductory research on re-configurable antennas. Initiated an investigation of cavity-backed slot array antennas. Performed a design of experiments to test feed methods, slot variation, and the use of grounding pins to approximate cavity walls.

**Sun Microsystems**, Chicago, IL

Engineering Intern

May 1999 - August 1999

Assisted the on-site work of system engineers, field engineers, and the sales department for a major client. Worked on the installation and maintenance of six E10K systems connected to photon drives. Gained experience in Solaris System Administration and Volume Manager. Performed a reliability, availability, and serviceability (RAS) study on the entire system and developed a customer based method to achieve and maintain RAS standards set by Sun.

**Agisys, Inc.**, Chicago, IL

Computer Consultant

June 1995 - October 1997

Assisted in the design and implementation of the Chicago Emergency Communication Center computer system. Responsible for the design and construction of a large database using Oracle, network maintenance, system check and simulation efforts, technical documentation, personnel training, and technical support of the live system.

**SKILLS:**

C, C++, Objective-C, STL, Java, Perl, Basic, Verilog, VHDL

HTML, CSS, XML, XHTML

Linux, Unix, Mac OS X, Solaris, Windows

Genetic Algorithms, Genetic Programming

Six Sigma Green Belt Certification

Solaris System Administration I Certification

**PUBLICATIONS:**

G. A. Muthler, "Fetch Tokens: A method for improving performance of a single-thread on a chip-multiprocessor", M.S. Thesis, December 2004

B. Slechta, D. Crowe, B. Fahs, M. Fertig, G. A. Muthler, J. Quek, F. Spadini, S. J. Patel, S. S. Lumetta, "Dynamic Optimization of Micro-Operations", in Proceedings of the 9th International Symposium on High-Performance Computer Architecture, February 2003.

G. A. Muthler, D. Crowe, S. J. Patel, and S. S. Lumetta, "Instruction Fetch Deferral using Static Slack", in Proceedings of the 35th International Symposium on Microarchitecture, November 2002.

F. Spadini and G. A. Muthler, "Improving DLL Performance with Dynamic Optimizations", in Proceedings of the First Annual Illinois Computer Systems Symposium, May 2002.