

# Timmie Smith

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## Education

**Ph.D. in Computer Science**, Texas A&M University

Ph.D. Advisor: Lawrence Rauchwerger

Expected Graduation Date: May 2010

Research Project: The design and implementation of STAPL, a parallel programming library based on the C++ Standard Template Library, to allow faster development of portable, efficient, parallel applications.

**M.C.S. in Computer Science**, Texas A&M University, August 2002.

**B.S. in Computer Science**, Texas A&M University, December 1999.

## Experience

**Summer Intern**, Performance, Analysis, and Threading Lab, Intel Corporation, Champaign, IL (Summer 2006). Implemented an extension to the task scheduler of the Intel® Threading Building Blocks library to improve task affinity for a thread. Assisted in the release of the library by investigating and correcting bugs identified during release candidate testing.

**Summer Intern**, Los Alamos National Laboratory (Summer 2002). Extended the design and implementation of TAXI, the TAMU Particle Transport code, to make extensive use of STAPL and to allow for future incorporation of CCS-4 sweep routines into TAMU Particle Transport code.

**Research Assistant**, Parasol Lab, Texas A&M University (2000 – Present). Researching the design and implementation of STAPL, a parallel programming library for C++ based on the C++ Standard Template Library.

**System Administrator**, Parasol Lab, Texas A&M University (2000 – Present). System Administrator for the Parasol Research Laboratory. Responsibilities include the administration of Linux PCs and HP-UX servers and assisting users with software installation and system problems. Configured GForge, a project management suite, to allow Parasol Lab members to manage research projects.

**Co-op Student**, Performance Analysis Tools Group, Hewlett-Packard, Richardson, TX (Spring 1999). Wrote Java applets and a Java application as part of user interface for a web-based prototype of CXperf. Performed test verification and new test development.

**Co-op Student**, Fortran90 Compiler Group, Hewlett-Packard, Richardson, TX (Summer 1998). Verified a set of test suites. Integrated a new test suite into test infrastructure.

**Co-op Student**, Fortran90 Compiler Group Co-op, Hewlett-Packard, Richardson, TX (Fall 1997). Verified, analyzed, and reported test failures in the nightly compiler testing. Corrected invalid tests and reported compiler bugs. Aided team members in running and analyzing tests.

## Skills

**Programming and Scripting Languages:** C++, Java, Perl, PHP, HTML

**Operating Systems:** HP-UX, AIX, IRIX, Linux, Windows

**Applications:** CVS, SVN, Rational ClearCase, Rational Purify, Valgrind, TotalView, GDB

## Publications

A. Buss, **T. Smith**, G. Tanase, N. Thomas, M. Bianco, N. Amato, L. Rauchwerger.

“Design for Interoperability in STAPL: pMatrices and Linear Algebra Algorithms” in 21st Workshop on Languages and Compilers for Parallel Computing (LCPC), Edmonton, Alberta, Canada, July 31 – August 2, 2008.

N. Thomas, S. Saunders, **T. Smith**, G. Tanase, L. Rauchwerger.

“ARMI: A High Level Communication Library for STAPL”. *Parallel Processing Letters*, 16(2):261–280, June 2006.

P. An, A. Jula, S. Rus, S. Saunders, **T. Smith**, G. Tanase, N. Thomas, N. Amato, L. Rauchwerger.  
"STAPL: an Adaptive Generic Parallel C++ Library" in 14th Workshop on Languages and Compilers for Parallel Computing (LCPC), Cumberland Falls, Kentucky, August 1 – 3, 2001.

P. An, A. Jula, S. Rus, S. Saunders, **T. Smith**, G. Tanase, N. Thomas, N. Amato, L. Rauchwerger.  
"STAPL: A Standard Template Adaptive Parallel C++ Library" in International Workshop on Advanced Compiler Technology for High Performance and Embedded Processors (IWACT), Bucharest, Romania, July 18 – 21, 2001.

## **Honors and Awards**

Student Mentoring Award, Texas A&M University, 2003

## **Professional Service & Activities**

**Referee** for IPDPS '02, HiPC '03, LCPC '03, LCPC '04, PPOPP '05, LCPC '05, IPDPS '06, CF '06, ICS '06, ICCD '06, IPDPS '07, HIPS '07, ICS '07, SC '07, HiPC '07, HiPEAC '07, ICPADS '07, LCSD '07, HiPC '08, HiPEAC '09, PPOPP '09.

**Reviewer** for International Journal of High Performance Computing Applications (IJHPCA)

**Reviewer** for "STL Tutorial and Reference Guide", Second Edition. Musser, Derge, and Saini. Addison-Wesley, 2001.