

Nathan L. Thomas

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Education

- Ph.D. in Computer Science**, Texas A&M University, College Station, TX 9/99 – Present
Advisor: Lawrence Rauchwerger.
3.90/4.00 GPA.
Relevant coursework: Compiler Design, Computer Architecture, Parallel Algorithms, Parallel Architectures, Machine Learning, and Numerical Methods.
- B.S. in Computer Science**, Texas A&M University, College Station, TX 8/95 – 5/99
3.94/4.00 GPA. Summa Cum Laude.

Experience

- Research Assistant**, Department of Computer Science, Texas A&M University 9/00 – Present
Working on the STAPL project, a parallel superset of the C++ Standard Template Library. Responsible for ARMI, the STAPL runtime system. Also developed library's framework for adaptive algorithm selection.
- Intern**, Advanced Operating Systems Group, IBM TJ Watson Research Center 5/02 – 9/02
Worked on the K42 operating system project. Researched methods for driving OS policy decisions based on application specific requirements. Ported STAPL library and several STAPL codes to K42.
- Graduate Assistant**, Supercomputing Facility, Texas A&M University 9/01 – 5/02
Assist in the system administration of the campus' SGI Origin 2000 / 3800 computing resources. Participated in grid computing initiative aimed at interconnecting high performance machines across the state.
- Teaching Assistant**, Department of Computer Science, Texas A&M University 9/99 – 8/00
Taught micromputer systems lab. Approximately 40 students a semester integrated hardware with an embedded processor. Also assisted in curriculum development and hardware acquisition for the lab.
- Intern**, Database / Business Intelligence Group, Compaq Computer Corporation 5/99 – 8/99
Conducted performance modelling of decision support systems in MS SQL Server, Oracle, and SAS. Results were used in a sizing tool that matches computing solution to customer workload. Nominated for outstanding intern award.

Publications

"ARMI: A High Level Communication Library for STAPL"

N. Thomas, G. Tanase, T. Smith, S. Saunders, and L. Rauchwerger. *Parallel Processing Letters*, June 2006, pp. 261-280.

"A Framework for Adaptive Algorithm Selection in STAPL"

N. Thomas, G. Tanase, O. Tkachyshyn, J. Perdue, N. Amato, and L. Rauchwerger, in *Proceedings of the Symposium on Principles and Practice of Parallel Programming (PPOPP)*, Chicago, IL 2005 (31%).

"Adaptive Sorting in STAPL"

N. Thomas, S. Saunders, N. Amato, L. Rauchwerger, Technical Report, TR01-005, Parasol Laboratory, Department of Computer Science, Texas A&M University, November 2001.

“STAPL: An Adaptive, Generic Parallel C++ Library”

P. An, A. Jula, S. Rus, S. Saunders, T. Smith, G. Tanase, N. Thomas, Nancy M. Amato, and L. Rauchwerger, in Proceedings of the “13-th Workshop on Languages and Compilers for Parallel Computing”, Cumberland Falls, KY August 2001.

”STAPL : A Standard Template Adaptive Parallel C++ Library”

P. An, A. Jula, S. Rus, S. Saunders, T. Smith, G. Tanase, N. Thomas, Nancy M. Amato, and L. Rauchwerger, in Proceedings of the “International Workshop on Advanced Compiler Technology for High Performance and Embedded Systems”, Bucharest, Romania, July 2001.

Awards

Department of Education GAANN Fellowship (1999-2001)

Exxon Academic Scholarship (1999)

Amaco Scholarship (1998)

Service and Professional Activities

Graduate Teaching Academy

8/06 – 5/07

Participated in university professional teaching development during the 2006-2007 academic year. The Graduate Teaching Academy Fellows program consists of weekly seminars, classroom observations, and creation of a teaching statement, under the guidance of a faculty mentor.

Undergraduate Student Mentor

5/06 – 8/06

Mentor for students visiting the Parasol Lab as part of the university’s summer undergraduate research program. Met regularly with students and help set research goals related to work on a fluid dynamics scientific application.

Reviewer for Workshops, Conferences, and Journals

International Workshop on Languages and Compilers for Parallel Computing (LCPC), ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP), ACM International Conference on Computing Frontiers (CF), International Conference on Supercomputing (ICS), IEEE International Parallel and Distributed Processing Symposium (IPDPS), International Journal of High Performance Computing Applications (IJHPCA), International Symposium on High-Performance Computer Architecture (HPCA), International Workshop on High-Level Parallel Programming Models and Supportive Environments (HiPS), International Conference for High Performance Computing, Networking, Storage, and Analysis (Supercomputing), and International Conference on Computer Design (ICCD).