

Van Thi Bui

CONTACT INFORMATION

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EDUCATION

University of Houston, Houston, Texas USA

Master of Science, Computer Science, May 2007

- Thesis: “PerfOMP: A Runtime Performance/Event Monitoring Interface for OpenMP”
- Advisors: Dr. Barbara Chapman and Oscar Hernandez

B.S., Psychology, May 2002

HONORS AND AWARDS

Grace Hopper Conference Scholarship, 2008
ACM SIGPLAN Professional Activities Committee Award, 2007
Graduate Assistant Teaching Fellowship, 2005-2006
Graduated Summa Cum Laude Honours, University of Houston, 2002
University Scholars Program Scholarship, 2002
Deans List, University of Houston, 2000-2002

PROFESSIONAL EXPERIENCE

U.S. DOE Argonne National Laboratories, Argonne, IL USA

Research Assistant, Mathematics and Computational Sciences Division **January 2008 - Present**
Developing components for analyzing and mining performance and power data (augmented with application-specific metadata) for parallel solution of nonlinear partial differential equations (PDEs). This work forms part of a multi-institutional effort to develop infrastructure for computational quality of service for parallel scientific applications.

Texas Instruments, Stafford, Texas USA

Software Engineering Intern, Code Generation Group

Summer 2007/2008

Designed and implemented novel test framework for compiler annotations. Modified existing testing infrastructure to incorporate evaluation of restrict qualifier using instrumented benchmarks. Designed and implemented regression tests for restrict qualifier based on a compiler intrinsic. Support new compiler’s machine description refactoring efforts. Low level performance analysis of new compiler infrastructure using benchmark kernels.

University of Houston, Houston, Texas USA

Research Assistant, High Performance Computing and Tools Group **May 2005 - December 2007**

Developed a runtime performance monitoring and tuning environment for parallel applications on a large scale SMP platform from NCSA. Developed a prototype light weight performance monitoring tool for parallel applications. The tool was used to analyze the performance behavior of a real world mechanical engineering application. Designed and implemented a performance monitoring API to facilitate building profiling and tracing tools.

University of Houston, Houston, Texas USA

Teaching Assistant

January - May, 2005

Monitored two labs in introductory programming courses. Assist students with debugging programs and understand programming in C. Shared responsibility for lab monitoring, exams, homework

assignments, and grades.

Rice University, Houston, Texas USA

Research Assistant, Programming Languages and Technologies Group

January - May, 2004

Conducted research on Metaocaml, a functional programming language.

CONFERENCE
PAPERS

K. Huck, O. Hernandez, V. Bui, S. Chandrasekaran, B. Chapman, A. D. Malony, L.C. McInnes, and B. Norris. Capturing Performance Knowledge for Automated Analysis, Supercomputing, 2008.

V. Bui, O. Hernandez, K. Huck, L. Li, B. Norris, L.C. McInnes, and B. Chapman. A Component Infrastructure for Performance and Power Modeling of Parallel Scientific Applications, Component Based High Performance Computing Conference, 2008.

V. Bui. PerfOMP: A Runtime Performance Monitoring API for OpenMP, Master's Thesis, University of Houston, Houston, TX, USA, 2007.

S. Chandrasekaran, O. Hernandez, D. Maskell, B. Chapman, and V. Bui. Compilation and Parallelization Techniques with Tool Support to Realize Sequence Alignment Algorithm on FPGA and Multicore, Workshop on New Horizons in Compilers, India, 2007

V. Bui, O. Hernandez, B. Chapman, R. Kufrin, P. Gopalkrishnan, D. Tafti. PerfOMP: A Runtime Performance Monitoring API for OpenMP, Parallel Computing, Germany, 2007.

V. Bui, O. Hernandez, B. Chapman, and R. Kufrin. Extended Abstract: An OpenMP Runtime Performance Analyzer, ACM SIGPLAN/SIGBED Conference for Languages, Compilers, and Tools for Embedded Systems, pg. 61-64, 2006.

CONFERENCE
POSTERS

V. Bui, B. Norris, S. Bhowmick, L. Li, L.C. McInnes. Towards the Dynamic Selection of Parallel Linear Solvers Based on Performance and Power Considerations, SIAM Conference on Parallel Processing for Scientific Computing, Atlanta, Georgia, March 2008.

V. Bui. PerfOMP: A Runtime Performance/Event Monitoring Interface for OpenMP, ACM SIGPLAN Programming Language Design and Implementation, San Diego, CA, June 2007.

V. Bui, O. Hernandez, B. Chapman, and R. Kufrin. An OpenMP Runtime Performance Analyzer, ACM SIGPLAN/SIGBED Conference for Languages, Compilers, and Tools for Embedded Systems, Ottawa, Ontario, Canada, June 2006.

Barbara Chapman, Oscar Hernandez, Shirley Moore, Felix Wolf, Rick Kufrin, and Van Bui. Compilation and Optimization with Performance Feedback. Computer Science Open House, Houston, Texas, April 2006.

INVITED TALKS

V. Bui. A Component Infrastructure for Performance and Power Modeling of Parallel Scientific Applications, Argonne National Laboratories, IL, May 2008.

V. Bui. PerfOMP: A Runtime Performance/Event Monitoring Interface for OpenMP, Argonne National Laboratories, Argonne, IL, August 2007.

V. Bui. PerfOMP: A Runtime Performance/Event Monitoring Interface for OpenMP, Texas Instruments, Stafford, Texas, June 2007.