Tejaswi Agarwal

Contact Information

Department of Computer Sciences, 1301
1210 W. Dayton St,
Madison, Wisconsin 53706

Phone: 608-422-9656
Email: agarwalt@cs.wisc.edu
Web: http://cs.wisc.edu/~agarwalt

Education

University of Wisconsin - Madison
Master of Science, Computer Science — **August 2014 - May 2016**

- GPA: 3.8/4.0

Vellore Institute of Technology (VIT University) - Chennai, India
Bachelor of Technology, Computer Science — **August 2010 - May 2014**

- GPA: 9.11/10.00
- Advisor: Prof. Michela Becchi (University of Missouri - Columbia)

Publications

Kittisak Sajjapongse, **Tejaswi Agarwal**, Michela Becchi, *"A Flexible Scheduling Framework for Heterogeneous CPU-GPU Clusters"*, proceedings of the 21st IEEE International Conference on High Performance Computing, HiPC 2014, India.

Tejaswi Agarwal, Michela Becchi, *"Design of a Hybrid MPI-CUDA benchmark suite for CPU-GPU clusters"*, proceedings of the 23rd International IEEE conference on Parallel Architectures and Compilation Techniques, PACT 2014, Canada. [**Winner - ACM Student Research Competition**]

Tejaswi Agarwal, Saurabh Jha, B. Rajesh Kanna, *"P-HGRMS:A parallel Hypergraph based Root Mean Square Algorithm for Image Denoising"*, poster presentation at the 22nd International ACM Symposium on High Performance Parallel and Distributed Computing, HPDC 2013, New York, USA. [**Best Poster Award**]

Saurabh Jha, **Tejaswi Agarwal**, B. Rajesh Kanna, *"Exploiting Data Parallelism in the yConvex Hypergraph Algorithm for Image Representation using GPGPUs"*, in proceedings of the ACM Student Research Competition, 27th ACM International Conference on Supercomputing, ICS 2013, USA.

Priyank Trivedi, **Tejaswi Agarwal**, K Muthunagai, *"MC-RANSAC: A Pre-processing Model for RANSAC using Monte Carlo method implemented on a GPU"*, in proceedings of the 2nd IEEE International Conference on Advances in Computing, Communications and Informatics, ICACCI 2013, India.

Work Experience

Intuit Inc, Mountain View, California — **May 2015-August 2015**
Software Engineer Intern, Quickbooks Online

Worked with the platform team to integrate a new staging feature into Quickbooks Online and designed scalability solutions for this feature.

Undergraduate Thesis

Improving system utilization for heterogeneous clusters — **Dec 2013-June 2014**
NPS Lab, University of Missouri - Columbia — **Prof. Michela Becchi**

Designed benchmark applications and implemented scheduling policies for high performance heterogeneous clusters using CUDA and MPI. Presented at PACT 2014. [Winner - ACM Student Research Competition]

Projects

Task Scheduling for Runtime-Assisted Parallelism — January 2015-May 2015
University of Wisconsin-Madison — **Prof. Michael Swift**

Advanced Operating Systems Course Project: Proposed an improvement to randomized work stealing schedulers for runtime parallelism. Performance improvement of 2x over current scheduling algorithms.

P-HGRMS: A Parallel Hypergraph Based Root Mean Square algorithm for image denoising August 2012-May 2013
Vellore Institute of Technology - Chennai, India **Prof. Rajesh Kanna**

Designed a parallel algorithm for noise removal from images and implemented it on GPUs. 18x performance improvement as compared to baseline implementation. Presented at HPDC 2013 and won the **Best Poster Award**.

Building cross compilers for embedded systems May 2012-July 2012
RISE Lab, Indian Institute of Technology - Madras, India **Prof. V. Kamakoti**

Built an x86-PowerPC cross compiler. Studied the Freescale Data Path Acceleration Architecture (DPAA) framework.

Teaching Experience

Introduction to Programming Spring 2015, Fall 2015
Graduate Teaching Assistant
Discrete Mathematics Fall 2014
Graduate Teaching Assistant
Multi-core Systems Programming Fall 2013
Undergraduate Teaching Assistant

Other Publications

Tejaswi Agarwal,*"Introducing NVIDIAs Compute Unifed Device Architecture CUDA"*, in Open Source for You , Volume 01, Issue 07, April 2013.

Tejaswi Agarwal,*"Heterogeneous Parallel Programming: Dive into the World of CUDA"*, in Open Source for You , Volume 01, Issue 08, May 2013.

Technical Skills

Programming C, C++, Java, OpenMP, CUDA C, MPI, Bash
Operating Systems Linux, Mac OS X, Windows

Awards and Scholarships

ACM Student Research Competition - PACT 2014: Won the undergraduate ACM Student Research Competition at PACT 2014.
MITACS Globalink Research Fellowship 2013: Received the MITACS Globalink fellowship award for research internship at the University of Calgary - Alberta, Canada.
Best Poster Award, HPDC 2013: Received the Best Poster award at the 22nd ACM International symposium on High Performance Parallel and Distributed Computing, HPDC 2013, New York, USA.
Undergraduate Research Experience (URE-004): Received the highest University award for undergraduate research. **2/108** students of the graduating computer science class of 2014 received this award.
Student Travel Grants - ASPLOS 2015, PACT 2014, CGO 2014, HPDC 2013 and ICS 2013: Received travel grants to attend ASPLOS 2015, PACT 2014, CGO 2014, HPDC 2013 and ICS 2013.

Leadership and Volunteer experience

Student Volunteer - SC'14, New Orleans, LA November 2014

Student Volunteer - PPoPP 2014, Orlando, FL February 2014

Core Member, GNU/Linux Users Group, GLUG February 2012 - July 2014
Vellore Institute of Technology, Chennai, India

Graduate Courses

Operating Systems, Introduction to Algorithms, Advanced Operating Systems, Machine Learning, Database Systems, Distributed Systems, Advanced Topics in Database Management Systems