



# YUN ZHANG

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## EXPERIENCE

### RESEARCH ASSISTANT, PRINCETON UNIVERSITY — SEP 2006 - PRESENT

Assisted in research on topics related with compiler optimization for multicore architecture, including automatic thread extraction, static program analysis, memory locality analysis and fault tolerance

### SUMMER INTERN, IBM RESEARCH TOKYO — JUN 2010 - PRESENT

Work in the embedded systems group on designing automatic compiler parallelization techniques for modeling language

### SUMMER INTERN, NEC AMERICAN LABS — JUN 2008 - SEP 2008

Interned in the verification group primarily on parallel program analysis and verification on data race detection for concurrent programs

### TESTING ENGINEER, INTEL CORPORATION — JUL 2002 - JUL 2003

Worked full-time as a testing engineer in the Open Runtime Platform compiler group. Responsibilities include regression, program testing and performance analysis

## EDUCATION

Princeton University, PhD Candidate

University of Toronto, Master of Science, Jun 2006

Peking University, Bachelor of Science, Jul 2002

## TEACHING

Operating Systems, Princeton University, Fall 2008

Compiling Techniques, Princeton University, Spring 2008

Artificial Intelligence, Princeton University, Fall 2007

## PATENTS

*Fast and accurate data race detection for concurrent programs with asynchronous calls*, Vineet Kahlon, Nishant Sinha, Yun Zhang, and Erik Kruus, in submission

## **PUBLICATIONS**

### ***Refereed Journal Publications***

[1] Matthew J. Bridges, Neil Vachharajani, Yun Zhang, Thomas B. Jablin, and David I. August, "Revisiting the Sequential Programming Model for the Multicore Era," in IEEE Micro, January 2008. IEEE Micro's "Top Picks" special issue for papers "most relevant to industry and significant in contribution to the field of computer architecture" in 2007.

### ***Refereed Conference Publications***

[2] Yun Zhang, Arun Raman, Jae W. Lee, and David I. August, "Shadow Redundant Execution for Transient Fault Detection", in submission to the 43th IEEE/ACM International Symposium on Microarchitecture (MICRO), December, 2010

[3] Yun Zhang, Jae W. Lee, Nick P. Johnson and David I. August, "DAFT: Decoupled Acyclic Fault Tolerance", to appear in the Nineteenth International Conference on Parallel Architectures and Compilation Techniques (PACT), September 2010

[4] Thomas B. Jablin, Yun Zhang, James Jablin, Jialu Huang, Hanjun Kim, and David I. August, "Liberty Queues for EPIC Architecture", in Proceedings of EPIC-8: Eighth Workshop on EPIC Architectures and Compiler Technology, April 2010

[5] Jialu Huang, Arun Raman, Yun Zhang, Thomas B. Jablin, Tzu-Han Hung, and David I. August, "Decoupled Software Pipelining Creates Parallelization Opportunities," in Proceedings of the 2010 International Symposium on Code Generation and Optimization (CGO), April 2010.

[6] Vineet Kahlon, Nishant Sinha, Yun Zhang and Erik Kruus, "Static Data Race Detection for Concurrent Programs with Asynchronous Calls," ACM SIGSOFT Symposium on the Foundations of Software Engineering, August, 2009.

[7] Matthew J. Bridges, Neil Vachharajani, Yun Zhang, Thomas B. Jablin, and David I. August, "Revisiting the Sequential Programming Model for Multi-Core," in Proceedings of the 40th IEEE/ACM International Symposium on Microarchitecture (MICRO), December 2007.

[8] Yun Zhang and Micheal Voss, "Runtime Empirical Selection of Loop Schedulers on Hyperthreaded SMPs," in Proceedings of the 19th IEEE International Parallel and Distributed Processing Symposium, April 2005.

[9] Yun Zhang, Mihai Burcea, Victor Cheng, Ron Ho, and Micheal Voss, "An Adaptive OpenMP Loop Scheduler for Hyperthreaded SMPs," in Proceedings of the 17th International Conference for Parallel and Distributed Computing Systems, September 2004.