Bin Lin

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EDUCATION & AWARDS

Sept. 2002 – July 2007	Doctor of Philosophy **Department of Electrical Engineering and Computer Science** **Northwestern University**, Evanston, Illinois Cumulative GPA: 3.8/4.0 *Thesis*: Human-driven Optimization *Advisor*: Professor Peter A. Dinda
Sept. 2002 – July 2004	Master of Science **Computer Science Department** **Northwestern University**, Evanston, Illinois Cumulative GPA: 3.8/4.0
Sept. 1997 – July 2002	Bachelor of Science **Department of Computer Science and Technology** **University of Science and Technology of China**, Anhui, China Cumulative GPA: 3.8/4.0 GRE: Verbal 610 (86%) / Quantitative 800 (98%) / Analytical 800 (99%)

WORKING EXPERIENCE

August, 2007 – present	**Senior Software Engineer, Intel Corporate**, Hillsboro, OR **Software & Services Group / System Software Division /** **Windows OS, VMM & Security** - Identify hardware and software based power and performance optimization opportunities. This includes comprehensive data collection and analysis on today's platforms, proposing enhancements, build prototypes and emulation to understand and establish value proposition to provide input into next-generation hardware and software architecture (base OS, VMM and application). - Debug software problems, Windows kernel problems and provide support for both internal & external teams.
June, 2006 – Sept., 2006	**Intern, Intel Research Laboratory**, Pittsburgh, PA - Researched and designed operating system support for the Log-Based Architectures for many-core processors that enable efficient logging and extraction of run time execution events. - Developed a Linux patch using C through intensive kernel programming. - Developed a system-call interception mechanism enabling efficient error and intrusion detection. - Evaluated performance of latest Linux multi-core scheduler. *manager*: Prof. Todd Mowry
June, 2005 – Sept., 2005	**Intern, IBM T.J. Watson Research Center**, Hawthorne, NY - Researched and extended existing model for benchmarking IT configuration complexity by introducing the concept of decision complexity. - Proposed a model to capture and measure the decision complexity faced by the non-expert system administrator. - Developed and conducted a carefully controlled web-based user study using a JAVA Servlet-based architecture with server-side collection of data, including timings. - XML-based experiment configuration files were used to achieve fine-grained control and flexibility. - Results revealed important fact about decision and identified key factors affecting decision complexity, which were used to extract

some guidance for system designers seeking to reduce the configuration complexity of their systems.

- *manager*: Dr Joseph L. Hellerstein

COMPUTER SKILLS:

- Proficiency in C
- Well experienced in C++, Java Servlet and Perl
- Well experienced in Linux Kernel Programming, Systems Programming and Socket Programming
- Well experienced in Windows Kernel Programming and Debugging
- Well experience in virtualization technology including Windows Hyper-V and VMware
- Well experienced in Graphical User Interface design and development
- Well experience in design and conduct of user studies
- Well experienced in Borland C++ Builder, Eclipse and Microsoft Visual C++
- Experienced in HTML and XML

ACADEMIA AWARDS AND FELLOWSHIPS

	Three Intel Division Recognition Awards and several business group recognition awards
Leadership Awards	**Outstanding Leadership Award**, 2004-05, Northwestern University
Academic Awards	**Morrison Terminal Year Fellowship**, 2006
	IBM Ph.D. Fellowship Program, 2006, Nominated
	Walter P. Murphy Fellowship, 2002
	Excellent Student Scholarship, 1998-99, 1999-00, 2000-01
	Excellent Freshman Scholarship, 1997
Other Award	**3rd Place Winner, 2007 Applied Research Day**
	Organizer: InNuvation - Entrepreneurship and Innovation at Northwestern

TEACHING EXPERIENCE

Sept. 2002 – Sept. 2006	**Northwestern University, EECS Department** Teaching Assistant for both undergraduate and graduate classes; responsibilities include

- Conducted weekly recitation sections and held office hours
- Wrote and graded solutions for home works, exams and implementation-based projects

PUBLICATIONS (Selected)

DISSERTATION

"*Human-driven Optimization*", NWU-EECS-07-04, Department of Electrical Engineering & Computer Science, Northwestern University, July 26th, 2007

JOURNAL PAPER

- **B. Lin**, A. Sundararaj, P. Dinda, "*Time-sharing Parallel Applications With Performance Isolation and Control*", Cluster Computing, Volume 11, Number 3, September 2008.
- A. Mallik, **B. Lin**, G. Memik, P. Dinda, R. Dick, "*User-Driven Frequency Scaling*", IEEE Computer Society Computer Architecture Letters, Volume 5, Number 2, July-December 2006.

CONFERENCE AND WORKSHOP PAPERS

- **B. Lin**, P. Dinda, "*Experiences With Scheduling and Mapping Games for Adaptive Distributed Systems: Summary*", IEEE International Conference on Autonomic Computing (ICAC), June 2009.
- **B. Lin**, A. Mallik, P. Dinda, G. Memik, R. Dick, "*User- and Process-Driven Dynamic Voltage and Frequency Scaling*", IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS), April, 2009.
- P. Dinda, G. Memik, R. Dick, **B. Lin**, A. Mallik, A. Gupta, S. Rossoff, "*The User In Experimental Computer Systems Research*", Workshop on Experimental Computer Science (ExpCS), June 2007.

- **B. Lin**, A. Mallik, P. Dinda, G. Memik, R. Dick, "*Power Reduction Through Measurement and Modeling of Users and CPUs: Summary*", ACM International Conference on Measurement and Modeling of Computer Systems (SIGMETRICS), June 2007.
- **B. Lin**, A. Brown, J. Hellerstein, "*Towards an Understanding of Decision Complexity in IT Configuration*", ACM Symposium on Computer-Human Interaction for Management of Information Technology (CHIMIT), March 2007, also a short paper appeared in IEEE International Conference on Autonomic Computing (ICAC), June 2006.
- **B. Lin**, P. Dinda, "*Towards Scheduling Virtual Machines Based On Direct User Input*", International Workshop on Virtualization Technology in Distributed Computing (VTDC'06), in conjunction with Supercomputing, Nov. 2006.
- S. Chen, B. Falsafi, P. Gibbons, M. Kozuch, T. Mowry, R. Teodorescu, A. Ailamaki, L. Fix, G. Ganger, **B. Lin**, S. Schlosser, "*Log-Based Architectures for General-Purpose Monitoring of Deployed Code*", Workshop on Architectural and System Support for Improving Software Dependability (ASID), Oct. 2006.
- **B. Lin**, P. Dinda, "*VSched: Mixing Batch and Interactive Virtual Machines Using Periodic Real-time Scheduling*", ACM/IEEE Supercomputing (SC), Nov. 2005.
- **B. Lin**, P. Dinda, D. Lu, "*User-driven Scheduling of Interactive Virtual Machines*", Workshop on Grid Computing (Grid), in conjunction with Supercomputing, Nov. 2004.
- A. Gupta, **B. Lin**, P. Dinda, "*Measuring and Understanding User Comfort With Resource Borrowing*", IEEE International Symposium on High Performance Distributed Computing (HPDC), June 2004.

PROFESSIONAL ACTIVITIES

Reviewer for

- <<The Handbook of Computer Networks>> (publisher: John Wiley & Sons, Inc.)
- International Conference on Autonomic Computing (ICAC'06)
- IEEE International Symposium on High Performance Distributed Computing (HPDC'05 and 06)
- International Meeting on High Performance Computing for Computational Science (VECPAR'06)

LEADERSHIP

President (2009-present), **Vice President** (2008-09)
Intel RCGnet (Recent College Graduate Network) Employee Group in Oregon
- Oversees the budgeting and execution of all RCGnet events and initiatives; holds accountability for the employee group chapter
- Supervises four sub-committees (*Communication, Career Development, Community Engagement and Networking*) across all Intel campuses in Oregon

Award — Was invited to Oregon Governor's Volunteer Awards Luncheon (Intel Involved was recognized as the 2008 winner of the Outstanding Employee Volunteer Program.)

President (2004-05), **Vice President** (2003-04)
Chinese Students & Scholars Association, Northwestern University
Founded in 1982, the largest international student group at Northwestern University
URL: http://www.nwucssa.org
Responsibility & Achievement:
- Planned and organized events & community services; 41 events & services covering academia, culture, sport, outing and entertainment; maximum number of event participants over 400
- Supervised and coordinated 8 departments (*Public Relations, Information, Consulting, Social, Sports, Treasure, Outing and Entertainment Departments*) on both Chicago and Evanston campuses
- Helped raised over $15,000 support from corporations

Awards — **Outstanding Leadership Award**, 2004-05
Outstanding Graduate Student Organization Award, 2004-05
Excellence In Diversity Programming Award, 2003-04