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Vita

Birthdate: May 21, 1978
Birthplace: Hastings, Minnesota
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Education

Sept. 2002 - Present	U.C. Santa Barbara	Ph.D. (Candidate)
Sept. 2000 - Jun. 2002	University of Chicago	M.S.

Professional Experience

Sept. 2002 – Present	Research Assistant	U.C. Santa Barbara
Jan. 2003 – Mar. 2003	Associate Lecturer	U.C. Santa Barbara
Dec. 1997 – Sept. 2004	System Administrator	Argonne National Laboratory

Published Work

- [24] D. Nurmi, J. Brevik, R. Wolski, **VARQ: Virtual Advance Reservations for Queues**, (to appear) ACM/IEEE International Symposium on High Performance Computing (HPDC), June 2008, Boston, MA
- [23] D. Nurmi, J. Brevik, R. Wolski, **Probabilistic Reservation Services for Large-Scale Batch-Scheduled Systems**, (to appear) IEEE Systems Journal Special Issue on Grid Resource Management, 2008
- [22] Y.S. Kee, C. Kesselman, D. Nurmi, R. Wolski, **Enabling Personal Clusters on Demand for Batch Resources Using Commodity Software**, (to appear) Heterogeneity in Computing Workshop (with IPDPS), April 2008, Miami, FL
- [21] S. Gurun, R. Wolski, C. Krintz, D. Nurmi, **On the Efficacy of Computation Offloading Decision Making Strategies**, (to appear) High-Performance Grid Computing Workshop (with IPDPS), April 2008, Miami, FL
- [20] Y.S. Kee, D. Nurmi, G. Singh, A. Mutz, C. Kesselman, R. Wolski, **VGES: The Next Generation of Virtualized Grid Provisioning**, IEEE/IFIP International Workshop on End-to-end Virtualization and Grid Management (EVGM), October 2007, San Jose, CA
- [19] D. Nurmi, J. Brevik, R. Wolski, **Queue Bounds Estimation from Time Series**, 13th Workshop on Job Scheduling Strategies for Parallel Processing, June 2007, Seattle, WA
- [18] R. Wolski, D. Nurmi, J. Brevik, **An Analysis of Availability Distributions in Condor**, Workshop on Next-Generation Software (w/IPDPS), March 2007
- [17] J. Brevik, D. Nurmi, R. Wolski, **Predicting Bounds on Queuing Delay in Space-Shared Computing Environments**, Proceedings of the IEEE International Symposium on Workload Characterization, October 2006, San Jose, CA
- [16] D. Nurmi, A. Mandal, C. Koelbel, J. Brevik, R. Wolski, K. Kennedy, **Evaluation of a Workflow Scheduler Using Integrated Performance Modeling and Batch Queue Wait Time Prediction**, (to appear) Proceedings of SuperComputing 2006, November 2006, Tampa, FL

- [15] C. Anglano, J. Brevik, M. Canonico, D. Nurmi, R. Wolski, **Fault-aware Scheduling for Bag-of-Tasks Applications on Desktop Grids**, Proceedings of GRID 2006
- [14] J. Brevik, D. Nurmi, R. Wolski, **Predicting Bounds on Queueing Delay for Batch-scheduled Parallel Machines**, Proceedings of ACM Principles and Practices of Parallel Programming (PPoPP) 2006, March, 2006, New York, NY
- [13] D. Nurmi, J. Brevik, R. Wolski, **Minimizing the Network Overhead of Checkpointing in Cycle-harvesting Cluster Environments**, Proceedings of Cluster 2005, September, 2005, Boston, MA
- [12] D. Nurmi, J. Brevik, R. Wolski, **Modeling Machine Availability in Enterprise and Wide-area Distributed Computing Environments**, Proceedings of EUROPAR 2005, August, 2005, Lisbon, Portugal
- [11] R. Wolski, G. Obertelli, M. Allen, D. Nurmi, and J. Brevik, **Predicting Grid Resource Performance On-line**, Handbook of Innovative Computing: Models, Enabling Technologies, and Applications, Springer-Verlag, 2005
- [10] R. Wolski, D. Nurmi, J. Brevik, H. Casanova, A. Chien, **Models and Modeling Infrastructures for Global Computational Platforms**, Workshop on Next Generation Software, IPDPS, April 2005
- [9] J. Brevik, D. Nurmi, R. Wolski, **Automatic Methods for Predicting Machine Availability in Desktop Grid and Peer-to-peer Systems**, CCGrid 2004 GP2PC Workshop, 2004, Chicago, IL
- [8] D. Nurmi, B. Toonen, **Chapter 7 Beowulf Cluster Computing with Linux**, 2nd Ed., MIT Press, December, 2004
- [7] S. Diverdi, D. Nurmi, T. Hollerer, **A Framework for Generic Inter-Application Interaction for 3D AR Environments**, presented at IEEE International Augmented Reality Toolkit Workshop, 2003, Tokyo, JP
- [6] S. DiVerdi, D. Nurmi, T. Hollerer. **ARWin - A Desktop Augmented Reality Window Manager**, Proc. International Symposium on Mixed and Augmented Reality (ISMAR), 2003
- [5] R. Ross, D. Nurmi, A. Cheng, M. Zingale, **A Case Study in Application I/O on Linux Clusters**, Proc. Supercomputing 2001, Denver, CO
- [4] A. Iamnitchi, D. Nurmi, I. Foster, **A Peer to Peer Approach to Resource Location in Grid Environments**, Proc. 11th Symposium on High Performance Distributed Computing (HPDC-11), Aug 2002, Edinburgh, UK
- [3] R. Evard, N. Desai, J. Navarro, D. Nurmi, **Clusters as Large-Scale Development Facilities**, Proc. Cluster 2002, Chicago, IL
- [2] J. Navarro, N. Desai, R. Evard, D. Nurmi, **Scalable Cluster Administration**, Proc. Cluster 2002, Chicago, IL
- [1] J. Navarro, R. Evard, D. Nurmi, N. Desai, **The Chiba City 1 Scalable Management Architecture**, (article) Newsletter of the IEEE Task Force on Cluster Computing 2002

Work in Submission

- [1] D. Nurmi, R. Wolski, J. Brevik, **Statistical Co-Allocation for Distributed High Performance Computing Resources**

Presentations

VGrADS: Fault-tolerant Virtual Grids for LEAD Workflow Execution, Technical Demonstration at SuperComputing, November 2007

Non-intrusive Statistical Co-allocation Service for Batch Controlled Resources, Virtual Grid Application Development Software (VGrADS) Fall Workshop, October 2007

Queue Bounds Estimation from Time Series (QBETS), Technical Session at JSSPP Workshop, June 2007

Evaluation of a Workflow Scheduler Using Integrated Performance Modeling and Batch Queue Wait Time Prediction, Technical Session at SuperComputing, November 2006

Predicting Bounds on Queuing Delay in Space-shared Computing Environments, Technical Session at the IEEE International Symposium on Workload Characterization, October 2006

Batch Queue Prediction for Virtual Resource Allocation, Virtual Grid Application Development Software (VGrADS) Fall Workshop, September 2006

Resource Reservation Management Using Personal PBS, Virtual Grid Application Development Software (VGrADS) Fall Workshop, September 2006

Batch Queue Delay Prediction: Tools and Techniques, Demonstration Session at TeraGrid Conference, June 2006

Predicting Bounds on Queuing Delay for Batch-scheduled Parallel Machines, Technical Session at Principles and Practices of Parallel Programming (PPoPP), March 2006

Batch Queue Prediction for High Performance Computing, Show-floor Demonstration at SuperComputing, November 2005

Minimizing the Network Overhead of Check-pointing in Cycle-harvesting Cluster Environments, Technical Session at Cluster 2005, September 2005

Modeling Machine Availability in Enterprise and Wide-area Distributed Computing Environments, Technical Session at EUROPAR, August 2005

Automatic Statistical Evaluation of Resources for Condor, Technical Talk at Condor Week, April 2004

Automatic Methods for Predicting Machine Availability in Desktop Grid and Peer-to-peer Systems, Global and Peer-2-Peer Computing (GP2PC) Workshop Session at CCGrid, April 2004

Teaching Experience

Courses Taught C, C++ and UNIX Programming, U.C. Santa Barbara

Courses Assisted (T.A.) Advanced Operating Systems, U.C. Santa Barbara
Grid Programming, U.C. Santa Barbara
UNIX Programming, University of Chicago
Web Programming, University of Chicago
Networks and Distributed Systems, University of Chicago

Professional Activities

Cyber Chair, IEEE International Symposium on High Performance Distributed Computing, 2006

Design, implementation, and maintenance of the NWS Batch Queue Prediction service

(<http://nws.cs.ucsb.edu/batchq>), sites monitored include SDSC, NCSA, Argonne Nat'l Labs, TeraGrid, Tokyo TiTech, and many others

Competed in Capture The Flag (CTF) team hacker competition, Defcon, 2004, 2005, 2006 (2nd, 1st, 3rd place respectively)

Software Consultant for Financial, Industrial, Internet Infrastructure, Personal, and Graphics companies, 1998 - Present

References

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