

Laura E. Grit

CONTACT INFORMATION Duke University
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EDUCATION

Duke University Durham, North Carolina
Ph.D. Computer Science
Advisor: Jeffrey S. Chase
Expected: Summer 2007
Sixth year: Completed coursework, qualifying exams, and thesis proposal

Duke University Durham, North Carolina
M.S. Computer Science
Advisor: Jeffrey S. Chase
December 2005
Committee: Carla Ellis, Jun Yang, and John Wilkes
Project: Broker Architectures for Service-oriented Systems

Hope College Holland, Michigan
B.S. Magna cum Laude
May 2001
Major: Computer Science Minor: Mathematics

RESEARCH INTERESTS The design and implementation of distributed systems, with concentrations on resource allocation and economic/market-based systems.

RESEARCH EXPERIENCE

Research Assistant **Duke University**
Fall 2002-Present *Durham, North Carolina*
Research focus is on designing a flexible and extensible distributed resource management framework that reprovisions resources in response to changing system conditions, such as request load, quality-of-service, or economic constraints. Involved with the Shirako project in the Network/Internet Computing Lab (NICL) developing a federated system to manage network utilities, such as computational grids and network testbeds, through economic resource exchange.

Research Intern **Hewlett Packard Research Lab**
Summer 2005 *Palo Alto, California*
Researched the impact of brokers within a economy-based, service-oriented computing infrastructure as well as service contracts and aggregate utility functions for job execution service providers. Worked in the Systems and Storage Department with mentors John Wilkes and Janet Wiener.

Student Intern **IBM T.J. Watson Research Center**
Summer 2003 *Hawthorne, New York*
Developed a new approach to managing IT infrastructures in data centers through a model-driven knowledge plane. The structure uses web/grid services to allow dynamic discovery and modification to the infrastructure. The work was based on web services, OGSA and CRM. Worked in the Distributed Middleware Department with mentor Tamar Eilam and manager Guernsey Hunt.

Student Intern **Sandia National Laboratories**
Summers 2001 and 2002 *Albuquerque, New Mexico*
Worked in the Scalable Computing Systems group with mentor Ron Brightwell and manager Neil Pundit. (2001) Tested and analyzed performance of the runtime system developed a part of the Cplant project. In addition, implemented benchmarks for Cplant portals. (2002) Worked on the parallel run-time environment for the Cplant clustering system. Implemented of a run-time enabled performance monitoring system for the Cplant MPI environment.

Research Internship

Summer 2000

As part of the CRA-W Distributed Mentor Project, worked with Dr. Sally McKee to perform a comparison of the Zephyr and gcc compilers using the SPEC benchmarks.

CRA-W / University of Utah

Salt Lake City, Utah

TEACHING
EXPERIENCE

Instructor

Spring 2007

Taught one section of an undergraduate seminar that explores the intersection of technology, society and law. Helped develop the syllabus, lead class discussions, and grade essays and projects.

Technical and Social Analysis of the Internet

Duke University

Teaching Assistant

Spring 2003

Responsible for grading projects, holding office hours, and answering student questions.

Graduate Operating Systems

Duke University

CONFERENCE
PUBLICATIONS

Works in this category are refereed standard-length papers (10-16 pages) published in conferences with acceptance ratios below 25%.

1. Lavanya Ramakrishnan, Laura Grit, Anda Iamnitchi, David Irwin, Aydan Yumerefendi, and Jeff Chase. Toward a Doctrine of Containment: Grid Hosting with Adaptive Resource Control. In *Proceedings of the 2006 ACM/IEEE Conference on Supercomputing*, November 2006. Acceptance ratio: 54/239.
2. Alvin AuYoung, Laura Grit, Janet Wiener, and John Wilkes. Service contracts and aggregate utility functions. In *Proceedings of the Fifteenth IEEE Symposium on High Performance Distributed Computing (HPDC)*, June 2006. Acceptance ratio: 24/157.
3. David Irwin, Jeff Chase, Laura Grit, Aydan Yumerefendi, David Becker, and Ken Yocum. Sharing Networked Resources with Brokered Leases. In *Proceedings of the USENIX Technical Conference (USENIX)*, June 2006. Acceptance ratio: 21/153.
4. David E. Irwin, Laura E. Grit, and Jeffrey S. Chase. Balancing Risk and Reward in a Market-based Task Service. In *Proceedings of the Thirteenth IEEE International Symposium on High Performance Distributed Computing (HPDC)*, June 2004. Acceptance ratio: 24/153.
5. Jeffrey S. Chase, David E. Irwin, Laura E. Grit, Justin D. Moore, and Sara Sprenkle. Dynamic Virtual Clusters in a Grid Site Manager. In *Proceedings of the Twelfth International Symposium on High Performance Distributed Computing (HPDC)*, June 2003. Acceptance ratio: 25/121.

OTHER
PUBLICATIONS

Works in this category are other papers published in refereed conferences and workshops.

6. Aydan Yumerefendi, Piyush Shivam, David Irwin, Pradeep Gunda, Laura Grit, Azbayer Demberel, Jeff Chase, and Shivnath Babu. Towards an Autonomic Computing Testbed. In *Proceedings of the Second Workshop on Hot Topics in Autonomic Computing (HotACII)*, June 2007. Acceptance Ratio: 5/17.
7. Jeff Chase, Laura Grit, David Irwin, Varun Marupadi, Piyush Shivam, and Aydan Yumerefendi. In *Proceedings of the International Conference on the Virtual Computing Initiative (VCI)*, May 2007.
8. Laura Grit, David Irwin, Varun Marupadi, Piyush Shivam, Aydan Yumerefendi, Jeff Chase, and Jeannie Albrecht. Using Virtual Machine Resource Control for Job Management. In *Proceedings of the First Workshop on System-level Virtualization for High Performance Computing (HPCVirt)*, March 2007.
9. Laura Grit, David Irwin, Aydan Yumerefendi, and Jeff Chase. Virtual Machine Hosting for Networked Clusters: Building the Foundations for "Autonomic" Orchestration. In *Proceedings of the First International Workshop on Virtualization Technology in Distributed Computing (VTDC)*, November 2006.
10. David Irwin, Jeff Chase, Laura Grit, and Aydan Yumerefendi. Self-Recharging Virtual Currency. In *Proceedings of the 3rd Workshop on Economics of Peer-to-Peer Systems (ECONP2P) at SIGCOMM*, August 2005.

- SUBMITTED WORK AND TECHNICAL REPORTS *Works in this category are papers reporting on research not reflected in the above publications.*
11. Aydan Yumerefendi, David Irwin, Laura Grit, and Jeff Chase. Experiences with Automated Data Center Management. In Submission, May 2007.
 12. Laura Grit, Lavanya Ramakrishnan, and Jeff Chase. On the Duality of Resource Leases and Jobs. In Submission, April 2007.
 13. David Irwin, Jeffrey Chase, Laura Grit, and Aydan Yumerefendi. Underware: An Exokernel for the Internet? Technical Report, Duke University CS-2007-01, January 2007.
 14. Laura Grit, Jeff Chase, David Irwin, and Aydan Yumerefendi. Adaptive Virtual Machine Hosting with Brokers. Technical Report, Duke University CS-2006-12, August 2006.
 15. Justin Moore, David Irwin, Laura Grit, Sara Sprenkle, and Jeff Chase. Managing Mixed-Use Clusters with Cluster-On-Demand. Technical Report, Duke University CS-2002-07, November 2002.

- POSTERS AND DEMOS *Works in this category are refereed posters and public demonstrations at conferences.*
16. Piyush Shivam, Azbayar Demberel, Pradeep Gunda, David Irwin, Laura Grit, Aydan Yumerefendi, Shivnath Babu, and Jeff Chase. Automated and On-Demand Provisioning of Virtual Machines for Database Applications. *Demonstration Proceedings of the Twenty-sixth ACM SIGMOD Conference on Management of Data (SIGMOD)*, Beijing, China, June 2007.
 17. Jeff Chase, Laura Grit, David Irwin, Lavanya Ramakrishnan, and Aydan Yumerefendi. Shirako. *Demonstration at SC06 Exhibit Floor*, November 2006.
 18. Laura Grit, Jeff Chase, David Irwin, and Aydan Yumerefendi. Shirako: Virtual Machine Hosting for Federated Clusters. In *Poster and Demo Session of the Seventh USENIX Symposium on Operating Systems Design and Implementation (OSDI)*, November 2006.

- PRESENTATIONS
- “Shirako: Virtual Machine Hosting for Networked Clusters” at Sandia National Laboratories, December 2006.
 - “Virtual Machine Hosting for Networked Clusters: Building the Foundations for “Autonomic” Orchestration” at VTDC, November 2006.
 - “Cereus: Cyberinfrastructure Environment for Resource Exchange and Utility Services” at Amazon.com, March 2006.

GRADUATE COURSEWORK	Operating Systems	Distributed Information Systems
	Computer Networks	Advance Computer Architecture
	Distributed Sensor Networks	Federated Distributed Systems
	Design and Analysis of Algorithms	Artificial Intelligence
	Intellectual Property Law	Copyright Law
	Experimental Methods in Computer Systems	

- PROFESSIONAL ACTIVITIES AND SERVICE
- Co-Facilitator, Responsible Conduct of Research (RCR) Workshop, Duke, 2004, 2006
 - Graduate Student Liaison to the faculty, Duke, 2004-2005
 - Co-Chair, Graduate Faculty Recruitment Committee, Duke, 2005, 2006
 - Member, Graduate Faculty Recruitment Committee, Duke, 2002, 2003
 - Member, Communications Committee, Duke, 2004-2006
 - Chair, Prospective Graduate Student Recruitment Committee, Duke, 2003
 - Member, Prospective Graduate Student Recruitment Committee, Duke, 2002, 2004, 2006
 - Participant, Pathways to the Professoriate Workshop, Duke, 2003
 - Member, IEEE Computer Society, USENIX Computing Association, ACM

HONORS AND
AWARDS

- National Physical Science Consortium Fellowship (2001-2007)
- Duke Computer Science Service Award (2003, 2004)
- Hope College Presidential Scholar (1997-2001)
- Hope College Senior Computer Science Book Award (2001)
- Phi Beta Kappa (2001)
- Sigma Xi (2001)
- Mortar Board (2000)

REFERENCES

Available upon request.