

Sean Barker

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- EDUCATION
- ◇ **University of Massachusetts Amherst, Amherst, MA** *Sept. 2009 – Present*
 - Third year M.S./Ph.D. student in Computer Science
 - Research affiliation with the Laboratory for Advanced System Software (LASS)
 - ◇ **Williams College, Williamstown, MA** *Sept. 2005 – May 2009*
 - B.A. with Honors in Computer Science, June 2009
 - Elected to Associate Membership in Sigma Xi
- RESEARCH EXPERIENCE
- ◇ **Laboratory for Advanced System Software, UMass Amherst, Amherst, MA** *Sept. 2009 – Present*

Advisor: Prashant Shenoy

 - Working in the fields of cloud computing, green computing, and virtualization.
 - Recent work on data center performance characteristics, memory sharing, and green server clusters.
 - ◇ **Summer Research Intern, NEC Labs America, Cupertino, CA** *June 2011 – Aug. 2011*

Data Management Department (Mentors: Yun Chi, Hyun Jin Moon)

 - Developed a novel technique for live database migration in the cloud.
 - Conducted prototype system development and evaluation.
 - ◇ **Honors Thesis Project, Williams College, Williamstown, MA** *Sept. 2008 – May 2009*

Advisor: Jeannie Albrecht

 - Thesis title: “Kudzu: A Decentralized and Self-Organizing Peer-to-Peer File Transfer System”
 - Explored decentralized and scalable peer-to-peer systems through the design, construction, and wide-area evaluation of a distributed file-transfer system.
 - Experiments performed through large-scale deployment on the global PlanetLab testbed.
 - ◇ **Research Assistant, Williams College, Williamstown, MA** *Jan. 2007 – Jan. 2008*

Advisor: Morgan McGuire

 - Worked on online system for collaborative document editing and hierarchical document organization.
 - Deployed prototype for use by students in an introductory computer science course.
- PUBLICATIONS
- ◇ **Blink: Managing Server Clusters on Intermittent Power**
Navin Sharma, **Sean Barker**, David Irwin, and Prashant Shenoy. *Proceedings of the Sixteenth International Conference on Architectural Support for Programming Languages and Operating Systems (ASP-LOS), Newport Beach, CA, March 2011.*
 - ◇ **Empirical Evaluation of Latency-sensitive Application Performance in the Cloud**
Sean Barker and Prashant Shenoy. *Proceedings of the First ACM Multimedia Systems Conference (MMSys), Scottsdale, AZ, February 2010.*
 - ◇ **Kudzu: A Self Balancing P2P File Transfer System**
Sean Barker, Marius Catalin Iordan, Jeannie Albrecht, and Barath Raghavan. *Poster session of the Third Workshop on Tackling Computer Systems Problems with Machine Learning Techniques (SysML), December 2008.*
- WORK EXPERIENCE
- ◇ **Engineering Intern, Google Inc., Mountain View, CA** *June 2008 – Aug. 2008*
 - Created an add-on library for Google App Engine providing an extended interface to the distributed datastore used by App Engine applications.
 - Worked on internal and external developer APIs.
 - ◇ **Teaching Assistant, Williams College, Williamstown, MA** *Sept. 2006 – May 2009*
 - Course: Digital Computation and Communication / Intro to Computer Science
 - Worked with students on Java and Python laboratory assignments designed to promote programming fundamentals.
 - Duties included lab assistance, consulting hours, and grading of completed labs and homework.

- WORK EXPERIENCE (CONT.)
- ◇ **Network programmer**, *Williams College, Williamstown, MA* *June 2006 – Aug. 2006*
 - Updated and extended an online software package used to monitor and administrate Cisco hardware on the Williams College network.
 - Responsible for the day-to-day operation of the Linux server running the package and provided continued support into the academic year.
- SKILLS
- ◇ Languages: Java, C, PHP, Perl, SQL, L^AT_EX.
 - ◇ Operating Systems: Mac OS X, Linux.
 - ◇ Miscellaneous: Subversion, Git, Eclipse.
 - ◇ Non-technical: Excellent oral and written communication, including technical presentations.
- GRADUATE COURSEWORK
- ◇ Distributed Operating Systems
 - ◇ Artificial Intelligence
 - ◇ Green Computing
 - ◇ Multi-Agent Systems
 - ◇ Computational Complexity
 - ◇ Advanced Algorithms
 - ◇ Complex Networks
 - ◇ Database Design and Implementation
 - ◇ Research Methods in Empirical Computer Science