

Alexander K. Ames (Sasha)

Curriculum Vitae

Lawrence Livermore National Laboratory

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Education

2011 (expected) Ph.D. Computer Science, University of California, Santa Cruz
2006 M.S., Computer Science, University of California, Santa Cruz – GPA: 3.7
1999 B.A., Computer Science, Columbia University, New York – GPA: 3.52

Research Experience

2008- present **Lawrence Livermore National Laboratory**, Livermore, CA
Designed the query language, query processing, and metadata storage and indexing for a novel file system metadata service, based on an attributed graph logical data model. Designed experiments for system evaluation, access pattern capture and analysis based on case study applications in text analysis, survey astronomy and HPC code performance tools/provenance.

2004-2008 **Storage Systems Research Center**, University of California Santa Cruz
Investigated view-based file systems for petascale storage, involving the design of a query language, parser, interface and proof-of-concept implementation. Designed and implemented interface and data structure for in-memory Linking File System. Designed and ran performance evaluation for this project as well. Designed and implemented user interface for linking file system.

1998 **Programming Systems Lab**, Columbia University, New York
Investigated java permissions for use in mobile agent research

Industry experience

Summer 2006,2007 (part- time) **Intern**, Hewlett Packard, Pleasanton, CA.
Integrated classification technology and enhanced search capabilities into the RISS storage appliance.

2002-2003 **Software Developer**, System Detection Inc., New York, NY
Developed front-end applications in JAVA for an IDS product.

1999-2002 **Software Developer**, Multex, Inc., New York, NY
Developed and maintained numerous web-based applications for financial data and research.

Contributed to back-end and infrastructure development. Designed and implemented a service for calendar data from an XML feed.

1998 **Computer Support Intern**, Reader's Digest Publications, New York, NY Assisted art and editorial staff with computer system and application use. Installed and configured systems for use. Administered the network.

1995-1997 **Assistant to Owner-Operator**, Supersample Corp., Great Neck NY Operated wide-format printers to complete customer orders. Engineered software solutions for innovative digital printing techniques. Developed company website.

Teaching experience

2004 **Teaching Assistant**, University of California, Santa Cruz

Computer Literacy - Ran lab sections, Taught computing concepts and applications to students one-on-one. Graded lab assignments and term paper. Managed section enrollment.

Hypermedia and Web - Formulated lab assignments. Graded lab assignments and project deliverables. Assisted students with labs and projects. On occasion lectured/demonstrated material for use in lab.

2001 **Developer**, Multex, inc.

Gave lecture and instructed support personnel on company software configuration and architecture.

1999 **Teaching Assistant**, Columbia University

Computer Networks - Constructed class website. Conducted project demos. Proctored final exam including phone support for video network students taking exam remotely. Ran office hours to assist students.

Awards

Lawrence Scholar Program. LLNL, 2008

Skills

Programming/Scripting Languages: C/C++, Python, Java, latex, php, sh, perl

Libraries/APIs: glibc, lex/yacc, linux vfs, FUSE, POSIX, numpy

Database: SQL, SPARQL, XML/XSLT, Xpath, XQuery, PostgreSQL, SQLite, BerkeleyDB

Misc tools: make, gcc, gdb, valgrind, ploticus, svn/cvs, omnigraffle

Refereed Publications

Sasha Ames, Maya B. Gokhale, Carlos Maltzahn. “QMDS: A File System Metadata Management Service Supporting a Graph Data Model-based Query Language.” To appear in *Proceedings of the 2011 IEEE Conference on Networking, Architecture, and Storage (NAS 2011)*. Dalian, China, July 2011.

Jonathan Koren, Yi Zhang, **Sasha Ames**, Andrew Leung, Carlos Maltzahn, Ethan L. Miller: “Searching and Navigating Petabyte Scale File Systems Based on Facets”, *Proceedings of the 2007 ACM Petascale Data Storage Workshop (PDSW 07)*, November 2007.

Sasha Ames, Nikhil Bobb, Kevin Greenan, Owen Hofmann, Mark W. Storer, Carlos Maltzahn, Ethan L. Miller, Scott A. Brandt: “LiFS: An attribute-rich file system for storage class memories,” *Proceedings of the 23rd IEEE / 14th NASA Goddard Conference on Mass Storage Systems and Technologies*, May 2006.

Ames, A., Bobb , N., Brandt, S.A., Hiatt, A., Maltzahn, C., Miller, E. L., Neeman, A., Tuteja, D.: “Richer File System Metadata Using Links and Attributes,” in *Proceedings of the 13th NASA Goddard Conference on Mass Storage Systems and Technologies (MSST '05)* May, 2005

Invited Talks/Papers

“A Searchable File System Metadata Management Service Based On A Graph Data Model” Lawrence Berkeley National Laboratory. July 2011.

Brian Van Essen, Roger Pearce, **Sasha Ames**, Maya Gokhale: “On the role of NVRAM in data intensive HPC architectures,” in Workshop on Emerging Supercomputing Technologies (WEST) at ICS 2011, Tucson, AZ. May 2011

“A Searchable File System Metadata Management Service Based On A Graph Data Model” Los Alamos National Laboratory. August 2010.

Technical Reports

Sasha Ames, Maya B. Gokhale, Carlos Maltzahn [QMDS: A File System Metadata Management Service Supporting a Graph Data Model-based Query Language](#). UCSC-SOE-11-12, April 2011

Sasha Ames, Maya B. Gokhale, Carlos Maltzahn *Design and Implementation of a Metadata-rich File System*. UCSC-SOE-10-7, January 2010.

Sasha Ames, Maya B. Gokhale, Carlos Maltzahn *A Metadata-rich File System*. UCSC- SOE-09-32, November 2009.

Sasha Ames, Carlos Maltzahn, Ethan L. Miller, *Quasar: A Scalable Naming Language for Very Large File Collections*, UCSC-SSRC-08-04, October 2008.

Sasha Ames, Carlos Maltzahn, Ethan L. Miller, *QUASAR: Interaction with File Systems Using a Query and Naming Language*, UCSC-SSRC-08-03, September 2008.

Sasha Ames. *LiFSBrowse: A Visual, User Environment for the Linking File System*. UCSC-SSRC-07-08, August 2007.

Poster Presentations

Sasha Ames, Maya B. Gokhale, Carlos Maltzahn. QMDS: A Searchable File Systems Metadata Service Based on a Graph Data Model. Petascale Data Storage Workshop. November 2010

Sasha Ames, Maya B. Gokhale, Carlos Maltzahn. Design and Implementation of a Metadata-Rich File System, Salishan Conference on High-Speed Computing, April 2010.

Sasha Ames, Maya B. Gokhale, Carlos Maltzahn. Design and Implementation of a Metadata-Rich File System. USENIX Conference on File and Storage Technology, February 2010.

Sasha Ames, Maya B. Gokhale, Carlos Maltzahn. Queriable File Systems for Metadata Management. Petascale Data Storage Workshop, November 2008.

Sasha Ames, Ethan Miller, Carlos Maltzahn. A File System Query Language. Symposium of Operating Systems Principles, October 2007.

Professional Service

External Reviewer. Storage Track. Supercomputing '11. November 2011

External Reviewer, The 30th International Conference on Distributed Computing Systems, June 2010

External Reviewer, USENIX Conference on File and Storage Technology, February 2008.