

ARCHANA GANAPATHI

PHONE (650) 302-1791 • E-MAIL ARCHANAG@CS.BERKELEY.EDU

EDUCATION

August 2005-Present: University of California, Berkeley

- PhD Candidate in the Computer Science Division of the Department of Electrical Engineering and Computer Sciences
- Title of Thesis: Using Statistical Machine Learning to Characterize and Predict System Resource Utilization and Performance

August 2003-May 2005: University of California, Berkeley

- Master's Degree in Electrical Engineering and Computer Science
- Title of Thesis: Why does Windows Crash?

August 2000-December 2002: University of California, Berkeley

- Bachelors Degree in Computer Science (Honors)
- Bachelors Degree in South Asian Studies (Honors)

1997-2000: Palo Alto High School, Palo Alto, California

- Graduated with Honors from California Scholarship Foundation

ACADEMIC RESEARCH

August 2005 - Present

Computer Science Division,
Reliable Adaptive Distributed Systems Lab (RADLab)
Department of Electrical Engineering and Computer Sciences,
University of California, Berkeley

Research Assistant

- Research on Improving Datacenter Efficiency using Statistical Machine Learning with Prof. David Patterson, Prof. Michael Jordan and Dr. Armando Fox
- Build Framework for Automatic Workload Characterization and Generation, Web Application Simulation and Performance Prediction

August 2003 – August 2005

Computer Science Division,
Department of Electrical Engineering and Computer Sciences,
University of California, Berkeley

Research Assistant

- Research on Recovery Oriented Computing with Prof. David Patterson
- Perform Operating System reliability and Application stability analysis

January 2002 – December 2002

Computer Science Division,
Department of Electrical Engineering and Computer Sciences,
University of California, Berkeley

Research Assistant

- Research on Recovery Oriented Computing with Prof. David Patterson

- Perform fault/failure analysis of Internet Services, fault characterization, reliability/availability metrics

PUBLICATIONS

Refereed Conference Papers

- *Tools and Techniques for Failure Data Collection and Analysis*. Workshop on Reliability Analysis of Systems Failure Data (RAF-2007).
- *Windows XP Kernel Crash Analysis*. 20th Large Installation System Administration Conference (LISA-2006).
- *Crash Data Collection: A Windows Case Study*. International Conference on Dependable Systems and Networks (DSN-2005).
- *Why PCs are Fragile and What We Can Do About It: A Study of Windows Registry Problems*. International Conference on Dependable Systems and Networks (DSN-2004).
- *Why do Internet services fail, and what can be done about it?* 4th USENIX Symposium on Internet Technologies and Systems (USITS 2003).

Unrefereed Technical Reports

- *Why Does Windows Crash?* Computer Science Master's Thesis, University of California, Berkeley. UCB//CSD-05-1393
- *Why PCs are Fragile and What We Can Do About It: A Study of Windows Registry Problems (Extended Version)*, Microsoft Corporation, MSR-TR-2004-25
- *Failure Analysis of Internet Services*. Computer Science Undergraduate Honors Thesis, University of California, Berkeley. UCB//CSD-03-1255

Conference Posters

- *Characterizing Proprietary Workload to Evaluate, Replay and Predict System Behavior*. 21st ACM Symposium on Operating Systems Principles (SOSP), October 2007.
- *Characterizing and Replaying Proprietary Workloads for Evaluating Systems*. 4th USENIX Symposium on Networked Systems Design and Implementation (NSDI), April 2007.
- *Supporting Annotation Layers for Natural Language Processing*. BioLink 2004: Linking Biological Literature, Ontologies and Databases: Tools for Users, May 2004.

Other Reports

- *Predicting Query and Workload Performance for Very Large Data Warehouses*. Submitted to SIGMOD: Special Interest Group on Management of Data, 2008.
- *A Case for DataForge: A SourceForge For Experimental Data*. Submitted to HotOS X: Tenth Workshop on Hot Topics in Operating Systems, 2005.
- *Supporting Annotation Layers for Natural Language Processing*. Submitted to 42nd Annual Meeting of the Association for Computational Linguistics, 2004.
- *Socio-Cultural Dynamics of Indian Classical Dance*. South Asian Studies Honors Thesis, University of California, Berkeley.

WORK EXPERIENCE

June 2007 – August 2007
 Hewlett Packard Laboratories,
 Palo Alto, CA
Research Intern

- Use Statistical Machine Learning to Predict Behavior of a Parallel Database System

- Characterize Business Intelligence Workloads based on Resource Requirements and Performance Predictions

June 2005 – August 2005

Microsoft Corporation,
Redmond, WA

Software Design Engineer

- Analyze Windows crash data, perform software reliability analysis
- Develop Analysis Framework and Architecture

May 2003 – August 2003

Microsoft Research Ltd,
Redmond, WA

Research Intern

- Collect and categorize registry-related PC fragility problems.
- Build PC Genomics database to include registry entry-to-function mappings as well as known problems

January 2003 – April 2003

Microsoft Research Ltd,
Cambridge, UK

Research Intern

- Characterize failure trends in system instability data

May 2002 - August 2002

Stanford Linear Accelerator Center,
Stanford University, California

Software Engineer

- Systems software to support physicists in linear accelerator related research

May 2001 - August 2001

Enterprise Java Laboratories,
Hewlett Packard, Cupertino, California

Software Engineer

- Assembler for IA64
- IA64 dependency analysis and checking

May 2000 – August 2000

Enterprise Java Laboratories,
Hewlett Packard, Cupertino, California

Software Engineer

- Extended 32 bit to 128 bit operations on Java/IA64 architecture
- Developed regression tests for HP's production quality test suite

PATENTS

US07409604 Determination of Related Failure Events in a Multi-Node System. Issued Aug 5 2008

AWARDS/HONORS

2003 National Science Foundation Graduate Research Fellowship

2003 Accepted for graduate study in Computer Science with full academic fellowships from MIT, UC Berkeley, Stanford University, Carnegie Mellon University, University of Washington (Seattle) and University of Wisconsin (Madison)

2002 Honorable Mention for CRA Outstanding Undergraduate Award

2002 Computer Science Departmental nomination for CRA Outstanding Undergraduate Award

2002 Selected for CRA-W Distributed Mentor Project Affiliates Program

2001 Finalist and Award, National Merit Scholarship

2001 Dean's Honor List, UC Berkeley

TEACHING

Spring 2006: Graduate Computer Architecture (CS 252)

Fall 2006: Graduate Student Instructor Practicum (CS 301)

ACADEMIC SERVICE

Organizer: Workshop on Statistical Learning Techniques for Solving Systems Problems (MLSys) at the Twenty-First Annual Conference on Neural Information Processing Systems (NIPS 2007)

Conference Reviewing: Hot Topics in Operating Systems (HotOS 2007), Hot Web 2006, USENIX 2006, 4th USENIX Conference on File and Storage Technologies (FAST-2005)

Journal Reviewing: IEEE Transactions on Dependable and Secure Computing 2005, IEEE Transactions on Computers 2008

Student representative: Committee on Computing and Communications (UC Berkeley Academic Senate), 2005-2006

Student member: Graduate Admissions Committee (UC Berkeley Computer Science Division), 2006-2007 and 2007-2008

OTHER

- Operating systems: Unix, Linux, MacOS, Windows
- Programming languages: C, C++, Java, VHDL, VB, Perl, XML, CGI
- Fluent Foreign Languages: Tamil, Hindi, Spanish

REFERENCES Furnished upon request