

Sangmin Lee

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Department of Computer Science
University of Texas at Austin
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Austin, TX 78712

Research Interests

Networked Systems, Operating Systems, and System Security

Education

- UNIVERSITY OF TEXAS, AUSTIN** Austin, TX
Ph.D in Computer Science, August 2007 - Present
Advisor: Prof. Mike Dahlin
- UNIVERSITY OF CALIFORNIA, SAN DIEGO** La Jolla, CA
M.S. in Computer Science and Engineering, 2007
Thesis: Harnessing Memory Redundancy in Virtual Machines
Advisor: Prof. Amin Vahdat
- SEOUL NATIONAL UNIVERSITY** Seoul, S.Korea
B.S. in Computer Science and Engineering, 2005

Experience

- UT Austin Laboratory for Advanced Systems Research** Austin, TX. (Aug2007-Present)
Graduate Research Assistant
Advisor: Mike Dahlin
Privacy preserving in cloud, cloud storage with minimal trust, infrastructure and library for Byzantine fault tolerant distributed systems
- Intel Lab Berkeley** Berkeley, CA. (Summer 2010)
Research Intern
Mentor: Byung-gon Chun
Code slicer for generating executable Java program slices used for predicting program performance
- Microsoft Research SVC** Mountain View, CA. (Summer 2009)
Research Intern
Mentor: Rama Ramasubramanian
Validating heuristics for virtual machines consolidation placements
- UCSD CSE Systems and Networking Group** La Jolla, CA. (2006-Jun2007)
Graduate Research Assistant
Advisor: Amin Vahdat
Content-based page/sub-page level memory sharing and in-memory page compression in Xen virtual machine monitor
- SystemBase Co., Ltd** Seoul, S. Korea (Mar2001-Feb2004)
Software Engineer
VoIP gateway based on embedded linux
- Department of Computer Science, UT Austin** Austin, TX
Teaching Assistant
CS380L Advanced Operating System, Fall 2008
CS315 Algorithms and Data Structures, Spring 2009

Publications

- Conference and Workshop

Have Your Cake and Eat It Too! Enabling Frequency Diversity Through Opportunism. Edmund L. Wong and Sangmin Lee. *ACM CoNEXT 2010 Student Workshop*.

Depot: Cloud Storage with Minimal Trust. Prince Mahajan, Srinath Setty, Sangmin Lee, Allen Clement, Lorenzo Alvisi, Mike Dahlin, and Mike Walfish. *Proceedings of the 9th USENIX Symposium on Operating Systems Design and Implementation. (OSDI 10)*

UpRight Cluster Services. Allen Clement, Manos Kapritsos, Sangmin Lee, Yang Wang, Lorenzo Alvisi, Mike Dahlin and Taylor Riche. *Proceedings of the 22nd ACM Symposium on Operating Systems Principles. (SOSP 09)*

Difference Engine: Harnessing Memory Redundancy in Virtual Machines. Diwaker Gupta, Sangmin Lee, Michal Vrable, Stefan Savage, Alex C. Snoeren, George Varghese, Geoffrey M. Voelker and Amin Vahdat. *Proceedings of the 8th USENIX Symposium on Operating Systems Design and Implementation. (OSDI 08) (Best Paper Award)*

- Journal

Depot: Cloud Storage with Minimal Trust. P. Mahajan, S. Setty, S. Lee, A. Clement, L. Alvisi, M. Dahlin and M. Walfish. *ACM Transactions On Computer Systems, December 2011*.

Difference Engine: Harnessing Memory Redundancy in Virtual Machines. Diwaker Gupta, Sangmin Lee, Michal Vrable, Stefan Savage, Alex C. Snoeren, George Varghese, Geoffrey M. Voelker and Amin Vahdat. *Communications of the ACM: October 2010*

Difference Engine: Harnessing Memory Redundancy in Virtual Machines. Diwaker Gupta, Sangmin Lee, Michal Vrable, Stefan Savage, Alex C. Snoeren, George Varghese, Geoffrey M. Voelker and Amin Vahdat. *USENIX ;login: April 2009*

- Technical Reports

Validating Heuristics for Virtual Machines Consolidation. Sangmin Lee, Rina Panigrahy, Vijayan Prabhakaran, Venugopalan Ramasubramanian, Kunal Talwar, Lincoln Uyeda and Udi Wieder. *Microsoft Research Technical Report MSR-TR-2011-9, January 2011*

Mantis: Predicting System Performance through Program Analysis and Modeling. Byung-Gon Chun, Ling Huang, Sangmin Lee, Petros Maniatis, Mayur Naik. *arXiv:1010.0019v1, September 2010*.

ASTRO: Autonomous and Trustworthy Data Sharing. Prince Mahajan, Sangmin Lee, Jiandan Zheng, Lorenzo Alvisi, and Mike Dahlin. *University of Texas at Austin, Department of Computer Sciences(TR-08-24) Oct 2008*

- Posters

Iris: Autonomous and Trustworthy Data Sharing. Prince Mahajan, Sangmin Lee, Lorenzo Alvisi and Mike Dahlin. *Poster Session in SOSP 09*

- Thesis

Difference Engine: Harnessing Memory Redundancy in Virtual Machines. Sangmin Lee. MS Thesis, The University of California at San Diego.

Awards and Honors

Jay Lepreau Best Paper Award OSDI 2008

Difference Engine: Harnessing Memory Redundancy in Virtual Machines.

SOSP Student Scholarship 2009.

OSDI Student Grant 2008, 2010.

CoNEXT Student Grant 2010.

UT Student Travel Grant 2008, 2009, 2010.

UT Microelectronics and Computer Development Fellowship Aug. 2007-Aug. 2011.
Guaranteed four-year support.

UT College of Natural Sciences Dean's Excellence Award Aug. 2007.
Candidates must rank within the top 10% of all students in their respective disciplines.

Software Releases

Depot: Cloud Storage with Minimal Trust.

<http://www.cs.utexas.edu/depot>

UpRight: Library for reliable and available services.

<http://code.google.com/p/upright>

Difference Engine: Harnessing Memory Redundancy in Virtual Machines.

<http://resolute.ucsd.edu/hg/difference-engine>

Other Activities

UTCS Masters Admissions Committee for 2010