Curriculum Vitae
Yangwook Kang

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601 McCarthy Blvd.
Samsung Semiconductor, Inc.
Milpitas, CA

PHONE: +1 (831) 419-6489
EMAIL: ywkang@soe.ucsc.edu
GTALK: ywkang80@gmail.com
http://users.soe.ucsc.edu/~ywkang

EDUCATION

2009–2014   PhD, University of California, Santa Cruz, Computer Science (advisor:Ethan L. Miller)

2006–2009   MS, Hongik University, Korea, Computer Science (advisor:Sam H. Noh)

1998–2006   BS, Hongik University, Korea, Computer Science

EMPLOYMENT HISTORY

2014.07–   Staff Engineer, Samsung Semiconductor, Inc.

2011.06–2012.01   Intern, Samsung Information Systems of America (SISA) R&D Center

2009–   Research Assistant, Computer Science, University of California, Santa Cruz

2009–   Teaching Assistant, Computer Science, University of California, Santa Cruz

2008–2009   Visiting Student, University of California, Santa Cruz (supported by Korea Research Foundation)

2006–2008   Research Assistant, Computer Science, Hongik University

2006–2008   Teaching Assistant, Computer Science, Hongik University

2003–2006   Software Engineer, MaumInfo Inc.

2001–2003   Software Engineer, Changjo Software.

2000–2001   Software Engineer, Ultari Information & Communication

RESEARCH INTERESTS

- High-performance, reliable storage system design for storage class memories(SCMs) such as flash and PRAM

- The use of SCMs as main-memory or a hybrid with DRAM in operating systems

- Interested in other reliability and performance issues as error correction mechanisms, storage system interfaces, and transactions.

PUBLICATIONS

Conference Papers

C8. **Yangwook Kang**, Rekha Pitchumani, Thomas Marlette, Ethan L. Miller,"Muninn: a Versioning Key-Value Store using Object-based Storage Model", *Proceedings of the 7th International Systems and Storage Conference (SYSTOR'14)*, June, 2014.

C7. **Yangwook Kang**,Yang-suk Kee, Ethan L. Miller,Chainik Park,"Enabling Cost-effective Data Processing with Smart SSD", *the 29th IEEE Symposium on Massive Storage Systems and Technologies (MSST 2013)*, May 2013.

C6. Rekha Pitchumani, Andy Hospodor, Ahmed Amer, **Yangwook Kang**, Ethan L. Miller, Darrell D. E. Long,"Emulating a Shingled Write Disk", *the 20th IEEE International Symposium on Modeling, Analysis and Simulation Of Computer And Telecommunication Systems(MASCOTS 2012)*, Aug 2012.

C5. Alberto Miranda, Sascha Effert, **Yangwook Kang**, Ethan L. Miller, Andre Brinkmann, Toni Cortes,"Reliable and Randomized Data Distribution Strategies for Large Scale Storage Systems", *the 18h International Conference on High Performance Computing (HiPC 2011)*, Dec 2011.

C4. **Yangwook Kang**,Ethan L. Miller,Jingpei Yang,"Object-based SCM: An Efficient Interface for Storage Class Memories", *the 27th IEEE Symposium on Massive Storage Systems and Technologies (MSST 2011)*, May 2011.

C3. Yulai Xie,Kiran-Kumar Muniswamy-Reddy,Dan Feng,Darrell D.E. Long, **Yangwook Kang**, Zhongying Niu, andZhipeng Tan, "Implementation and Evaluation of Oasis: An Active Storage Framework based on T10 OSD Standard", *the 27th IEEE Symposium on Massive Storage Systems and Technologies (MSST 2011)*, May 2011.

C2. **Yangwook Kang**, Ethan L. Miller, "Adding Aggressive Error Correction to a High-Performance Flash File System", *Proceedings of the 9th ACM/IEEE Conference on Embedded Software (EMSOFT '09)*, October 2009

C1. **Yangwook Kang**, Jongmoo Choi, Donghee Lee, Sam H. Noh, "Design and Implementation of the Log-Structured File System Utilizing Nonvolatile Memory", *Proceedings of the Korean Computer Conference* vol.34 , no. 1, pages 310–314, 2007

Short Papers

C1. **Yangwook Kang**, Jingpei Yang, Ethan L. Miller, "Efficient Storage Management for Object-based Flash Memory", *the 18th Annual Meeting of the IEEE International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS 2010)*, August 2010

Journals

J1. **Yangwook Kang**, Jongmoo Choi, Donghee Lee, Sam H. Noh, "Improving Log-Structured File System Performance by Utilizing Non-Volatile Memory", *Journal of KISS:Computing Practices and Letters*, Korean Institute of Information Scientists and Engineers, vol.14 , issues. 5, pages 537 541, July 2008

Poster Presentations

P4. Andy Hospodor, Ethan L. Miller, Rekha Pitchumani, **Yangwook Kang**, Darrell Long, Ahmed Amer, Yulai Xie,"A Unified Object Oriented Storage Architecture", *10th USENIX Conference on File and Storage Technologies (FAST '12)*, February 2012.

P3. **Yangwook Kang**,Ethan L. Miller,Jingpei Yang,"Object-based SCM: An Efficient Interface for Storage Class Memories", *Non-Volatile Memories Workshop*, March 2011.

P2. **Yangwook Kang**, Jingpei Yang, Ethan L. Miller "Object-based SCM: An efficient interface for storage class memories", *9th USENIX Conference on File and Storage Technologies (FAST '11)*, San Jose, CA, Feb, 2011

P1. **Yangwook Kang**, Jongmoo Choi, Donghee Lee, Sam H. Noh, "Seamlessly Retaining Both High Performance and Full Consistency by Adapting the File System to Exploit Non-volatile RAM", *USENIX 2008 Annual Technical Conference on Annual Technical Conference*, Boston, Massachusetts, June, 2008

INDUSTRY EXPERIENCE

2011.09–2012.01   Intern (part-time), Samsung Information Systems of America (SISA) R&D Center

2011.06–2011.09   Intern, Samsung Information Systems of America (SISA) R&D Center

2003.10–2006.03   Software Engineer, MaumInfo Inc. [full-time 2003–2005, part-time 2005–2006 (returned to school)]
In charge of designing and developing enterprise softwares such as Certificate Authority(CA), SMS, Authentication server and etc.

2000.10–2003.10   Software Engineer, Changjo Software. [full-time]
In charge of designing and developing HTML WYSIWYG ActiveX components and several enterprise websites.

2000.01–2000.10   Software Engineer, Ultari Information & Communication [full-time]

SKILLSET

- Experience in Linux kernel programming. Interested in the virtual file system(VFS), virtual memory manager (VMM) and file systems

- Experience in developing client-server or web-based softwares such as Certificate Authority, Authentication Server, online community website, etc

- Knowledge of relational database technology including SQL queries, relation design, relational algebra and schema refinement

- Familiar with Microsoft Windows client/component programming using MFC/ATL and Visual Basic

- Programming Languages: Java, C#, Python, VC++/MFC/ATL, ANSI C, C++/STL, Visual Basic and web scripting languages like PHP and ASP