

# Jaejin Lee

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Seoul National University  
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## CURRICULUM VITAE

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### EDUCATION

- Ph.D. in Computer Science** August 1995 – October 1999  
University of Illinois at Urbana-Champaign, IL, USA  
Thesis: Compilation Techniques for Explicitly Parallel Programs  
Advisor: David A. Padua
- M.S. in Computer Science** September 1993 – June 1995  
Stanford University, CA, USA
- B.S. in Physics** March 1986 – February 1991  
Seoul National University, Seoul, Korea

### RESEARCH INTERESTS

Compilers, OS and architecture interactions, runtime systems for multicores/manycores, compiler post-pass optimization, helper threading techniques, and embedded systems

### EXPERIENCE

- Director** April 2009 – present  
Center for Manycore Programming  
Seoul National University, Seoul, Korea
- Professor** October 2010 – present  
School of Computer Science and Engineering  
Seoul National University, Seoul, Korea
- Associate Professor** October 2004 – September 2010  
School of Computer Science and Engineering  
Seoul National University, Seoul, Korea
- Assistant Professor** September 2002 – September 2004  
School of Computer Science and Engineering  
Seoul National University, Seoul, Korea
- Assistant Professor** January 2000 – August 2002  
Department of Computer Science and Engineering  
Michigan State University, East Lansing, MI, USA
- Visiting Lecturer and Postdoctoral Research Associate** August 1999 – December 1999  
Department of Computer Science  
University of Illinois at Urbana-Champaign, IL, USA  
Supervisor: Josep Torrellas
- Summer Intern** June 1997 – August 1997  
IBM T. J. Watson Research Center, New York, USA
- Research Assistant** January 1997 – August 1999  
Department of Computer Science,  
University of Illinois at Urbana-Champaign, IL, USA

**EXPERIENCE (contd.)**

<b>Research Assistant</b> Center for Supercomputing Research and Development University of Illinois at Urbana-Champaign, IL, USA	January 1996 – December 1997
<b>Teaching Assistant</b> Department of Computer Science University of Illinois at Urbana-Champaign, IL, USA	August 1995 – December 1995
<b>Teaching Assistant</b> Department of Computer Science Stanford University, CA, USA	January 1995 – June 1995
<b>Research Assistant</b> Department of Computer Science Stanford University, CA, USA Supervisor: Zohar Manna	September 1994 – March 1995
<b>Military Service</b> Korean Army	January 1991 – June 1992

**HONORS and AWARDS**

<b>Research Excellence Award</b> College of Engineering, Seoul National University, Seoul, Korea	2008, 2009
<b>NSF CAREER Award</b> National Science Foundation, USA (awarded but withdrawn before finalization due to the movement to Seoul National University)	May 2003
<b>Best Paper Award</b> SCOPEs '04: The 8th International Workshop on Software and Compilers for Embedded Systems	September 2004
<b>Best Paper Award</b> MTEAC-5: The 5th Workshop on Multithreaded Execution, Architecture, and Compilation	December 2001
<b>IBM Ph.D. Fellowship</b>	August 1997 – May 1999
<b>Korea Foundation for Advanced Studies Fellowship</b>	September 1997 – August 1999

**RESEARCH GRANTS**

(1.00 USD = 1,150 KRW as of November 2010)

- Center for Manycore Programming, PI, Ministry of Education, Science and Technology, 5,400,000,000 KRW, April 2009 – February 2018.
- Analysis of the Memory Access Patterns of Operating Systems and Applications in Multicore Server Environments, PI, Samsung Electronics, 55,000,000 KRW, May 2009 – February 2010.
- Smart Linkers for Mobile Phones, PI, Samsung Electronics, 70,000,000 KRW, April 2009 – October 2009.
- OpenCL Runtimes and Compilers for Multicore Platforms, PI, Samsung Electronics, 150,000,000 KRW, March 2009 – December 2009.
- Executable Image Partitioning and Transformation Techniques for Security, PI, SK Telecom. 100,000,000 KRW, December 2008 – December 2009.
- Multisensor-Based Cognitive Information Processing Technologies for Human-Machine Interaction, Co-PI, Ministry of Education, Science and Technology, 30,000,000 KRW, October 2008 – April 2009 (with Byoung-Tak Zhang (PI) et al.).
- Innovating Software Education with Open Source Software, Co-PI, Ministry of Knowledge Economy, 152,000,000 KRW, October 2008 – December 2010 (with Hyoung-Joo Kim (PI) et al.).

**RESEARCH GRANTS (contd.)**

(1.00 USD = 1,200 KRW as of May 2010)

8. Memory Optimization Techniques for Coarse-Grained Reconfigurable Processors, PI, Samsung Electronics, Korea. 120,000,000 KRW, June 2008 – February 2010.
9. Analyzing Memory Access Patterns of Operating Systems and Applications in Multicore Server Environments, PI, Samsung Electronics, Korea. 60,000,000 KRW, May 2008 – April 2009.
10. Dynamic Voltage and Frequency Scaling Techniques based on Process Characteristics and Automatic Software Development Tools for the Techniques, PI, Samsung Electronics, 80,000,000 KRW, January 2008 – November 2008.
11. Memory Hierarchy Management for Reconfigurable Processors, PI, Samsung Electronics, 60,000,000 KRW, December 2006 – November 2007.
12. Embedded Software Optimization using Compiler Techniques, PI, Electronics and Telecommunications Research Institute, 30,000,000 KRW, September 2007 – January 2008.
13. Dual Processor Design Techniques for Mobil Devices, PI, Ministry of Information and Communication, 160,000,000 KRW, April 2006 – November 2007.
14. A Target Independent Cross Compilation Environment for Mobile Devices, PI, Electronics and Telecommunications Research Institute, 30,000,000 KRW, September 2006 – January 2007.
15. Development of Flash Memory-based Embedded Multimedia Software, Co-PI, Ministry of Information and Communication, 2,980,000,000 KRW, March 2006 – February 2009 (with Sang Lyul Min (PI) et al.).
16. Developing a DRAM Test Program and an Operating System that are Optimized for Chip Multiprocessors, PI, SAMSUNG Electronics, 70,000,000 KRW, January 2006 – December 2006.
17. Embedded S/W Design and Verification Techniques for MPSoC, Co-PI, Ministry of Information and Communication, 2,930,000,000 KRW, March 2005 – February 2007 (with Soonhoi Ha (PI) et al.).
18. Low Power and High Performance Embedded Video Processors, Co-PI, Ministry of Information and Communication, 324,000,000 KRW, April 2004 – February 2006 (with Soo-Ik Chae (PI) and Suhwan Kim).
19. Automatic Code Overlays and Mask ROM Patching using Compiler Techniques, PI, SAMSUNG Electronics, 60,000,000 KRW, January 2005 – December 2005.
20. Developing an Efficient DRAM Test Program Optimized for the 32/64 bit Computing Environment, Co-PI, Samsung Electronics, 50,000,000 KRW, December 2004 – November 2005 (with Jongmoo Choi (PI)).
21. Application Specific and Automatic Power Management Based on Whole Program Analyses, Co-PI, Microsoft, USA, \$30,000, July 2003 – June 2004 (with Heonsik Shin (PI)).
22. A Compiler for Helper Threads, CAREER Award, National Science Foundation, USA. Awarded but withdrawn before finalization due to the movement to Seoul National University, Korea. PI, May 2003 – May 2008
23. An Optimizing Compiler for Languages with Programmable Memory Models, Co-PI, Information Technology Research Program, CCR-0081265, National Science Foundation, USA, \$499,387, September 2000 – August 2003 (with David A. Padua(PI) and Samuel P. Midkiff )
24. A Proxy Centric Testbed for Mobile Internet Research, Co-PI, CISE Research Resources Program, EIA-0130724, National Science Foundation, USA, \$96,390, January 2002 – December 2004 (with Betty H. Cheng, Laura Dillon, Sandeep S. Kulkarni, Philip K. McKinley, and Kurt Stirewalt).

## PROFESSIONAL ACTIVITIES

- **Steering Committee Member**

ACM SIGPLAN/SIGBED Conference on Languages, Compilers and Tools for Embedded Systems, April 2010 – March 2015

- **Organizer**

**INTERACT-15**: Workshop on Interaction between Compilers and Computer Architectures (**Program co-chair**)

**LCTES '10**: ACM SIGPLAN/SIGBED Conference on Languages, Compilers and Tools for Embedded Systems, Stockholm, Sweden, April 2010 (**General chair**)

**ICPADS '09**: The Fifteenth International Conference on Parallel and Distributed Systems, Shenzhen, China, December 2009 (**Vice program chair**, Multicore Computing and Parallel/Distributed Architecture track)

**Dagstuhl Seminar 03431**: Hardware and Software Consistency Models: Programmability and Performance, Germany, October 2003 (**Co-organizer**, with Sam Midkiff and David A. Padua)

- **Program Committee Member**

- **PLDI '11**: ACM SIGPLAN 2011 Conference on Programming Language Design and Implementation (External Review Committee member)

- **LCTES '07, LCTES '08, LCTES '11**: ACM Conference on Languages, Compilers, and Tools for Embedded Systems

- **PPoPP '11**: ACM SIGPLAN 2011 Symposium on Principles and Practice of Parallel Programming

- **RTSS '10**: The 31st IEEE Real-Time Systems Symposium (Design and Verification track)

- **EUC '06, EUC '08, EUC '09, EUC '10**: IFIP International Conference on Embedded and Ubiquitous Computing

- **INTERACT-14**: Workshop on Interaction between Compilers and Computer Architectures

- **ICS '09**: The 23rd ACM International Conference on Supercomputing

- **HiPC '08, HiPC '09**: IEEE International Conference on High Performance Computing

- **ICPP '08, ICPP '11**: International Conference on Parallel Processing

- **IPDPS '08**: IEEE 2008 International Parallel and Distributed Processing Symposium

- **PACT '07**: The 16th International Conference on Parallel Architectures and Compilation Techniques

- : ACM 2007 Conference on Languages, Compilers, and Tools for Embedded Systems (also Publicity Chair)

- **EMSoft '06, EMSoft '07**: The 7th ACM SIGBED Conference on Embedded Software

- **ICPADS '06**: The 12th International Conference on Parallel and Distributed Systems

- **ISPAN '02**: The 6th International Symposium on Parallel Architectures, Algorithms, and Networks

- **JVM '02**: The 2nd USENIX Java Virtual Machine Research and Technology Symposium (also Work-In-Progress session organizer)

- **Other Committees**

External Ph.D. Thesis Committee Member (Yan Solihin)

2002

Department of Computer Science, University of Illinois at Urbana-Champaign, IL, USA

- **Referee for**

IEEE Transactions on Computers (**TC**), IEEE Transactions on Software Engineering (**TSE**), IEEE Transactions on Parallel and Distributed Systems (**TPDS**), ACM Transactions on Embedded Computing Systems (**TECS**), ACM Transactions on Design Automation of Electronic Systems (**TODAES**), Journal of Parallel and Distributed Computing (**JPDC**), IEE Proceedings Part E: Computers and Digital Techniques, International Journal of Parallel Programming (**IJPP**), Theoretical Computer Science, International Conference on Parallel Architectures and Compilation Techniques (**PACT**), International Symposium on High-Performance Computer Architecture (**HPCA**), International Parallel and Distributed Processing Symposium (**IPDPS**), International Conference on Parallel Processing (**ICPP**), International Conference on Compiler Construction (**CC**), Workshop on Languages and Compilers for Parallel Computing (**LCPC**), International Conference on Embedded Software (**EMSoft**), International Conference on Languages, Compilers, and Tools for Embedded Systems (**LCTES**), **Euro-Par** Conference, Euromicro Workshop on Parallel and Distributed Processing, ACM Java Grande Conference, Conference on Object-Oriented Programming, Systems, Languages, and Applications (**OOPSLA**)

- **Member of** IEEE, ACM, and the Korean Institute of Information Scientists and Engineers

## INVITED LECTURES

- **OpenCL as a Unified Programming Interface for CPU-GPU Clusters**  
KISTI (Korea Institute of Science and Technology Information), Daejeon, Korea January 2011
- **Multicore Programming**  
Samsung Advanced Technology Training Institute, Suwon, Korea (2 days) November 2010
- **A Software SVM Approach for Heterogeneous Multicore Accelerator Clusters**  
Multicore/GPU Computing Workshop, KIAS (Korea Institute for Advanced Study) May 2010  
The Korean Society for Computational Sciences and Engineering, Korea
- **Introduction to OpenCL**  
Korea Institute of Science and Technology, Seoul, Korea February 2010  
Samsung India Software Operations, Bangalore, India September 2009
- **A Software SVM Approach for Heterogeneous Accelerator Multicore Architectures**  
Winter Workshop, Special Interest Group on Computer Systems January 2010  
The Korean Institute of Information Scientists and Engineers, Korea  
Samsung India Software Operations, Bangalore, India January 2010
- **Parallel Programming Models and OpenCL in the Multicore Era**  
Samsung Multicore Forum, Samsung Advanced Institute of Technology, Korea November 2009
- **Compilers and Runtimes Support for Explicitly Managed Memory Hierarchies**  
ACACES '09: the fifth International Summer School on Advanced Computer Architecture and Compilation for Embedded Systems Terrassa, Spain (5 days, 1 lecture/day) July 2009
- **FaCSim: A Fast and Cycle-Accurate Architecture Simulator for Embedded Systems**  
Digital Media Division, Samsung Electronics, Korea November 2008
- **COMIC: A Coherent Shared Memory Interface for Cell BE**  
Samsung Advanced Institute of Technology, Korea December 2008  
School of Computer Science, Georgia Institute of Technology, Atlanta, USA October 2008  
IBM T. J. Watson Research Center, Hawthorne, New York, USA October 2008
- **Multicore Programming Models**  
Telecommunication Network Division, Samsung Electronics, Korea September 2008
- **Issues in Parallel Programming Models for Multi/Manycores**  
Samsung Advanced Institute of Technology, Korea August 2008
- **Hiding Relaxed Memory Consistency with Compilers**  
School of Computing, University of Utah, Salt Lake City, Utah, USA February 2008
- **Virtual Memory Environments for Instruction Scratchpad Memory Management**  
Dagstuhl Seminar 07101: Quantitative Aspects of Embedded Systems March 2007  
Schloss Dagstuhl, Wadern, Germany
- **Memory Hierarchy Optimization in Software**  
Memory Division, Samsung Electronics, Korea December 2004
- **New Optimization Opportunities for Embedded Software**  
National Chiao Tung University, Taiwan December 2004
- **What can Compilers do for Embedded Systems?**  
Samsung Software Center, Samsung Electronics, Korea March 2004
- **Software Memory Consistency Models**  
Fall Conference, Special Interest Group on Programming Languages November 2003  
The Korean Institute of Information Scientists and Engineers
- **Advanced Compiler Technologies**  
Embedded Systems Session, European Summer School on Embedded Systems August 2003  
Malardalen University, Sweden
- **Performance Improvement of Processing-In-Memory Systems by Using Memory Threads**  
Korea University, Seoul, Korea November 2002  
System LSI Division, Samsung Electronics, Korea October 2002
- **An Optimizing Compiler for Relaxed Memory Consistency Models**  
Department of Computer Science, University of Massachusetts at Amherst, MA, USA February 2001  
Department of Computer Science, Northwestern University, IL, USA February 2001  
Department of Computer Science, State University of New York at Stony Brook, NY, USA March 2001  
Department of Computer Science, Boston University, MA, USA March 2001

**INVITED LECTURES (contd.)**

- **Automatically Mapping Code on an Intelligent Memory Architecture**  
Department of Electrical and Computer Engineering  
Northwestern University, IL, USA February 2001
- **Compilation Techniques for Explicitly Parallel Programs**  
Dagstuhl Seminar 00341: High Performance Computing and Java August 2000  
Schloss Dagstuhl, Wadern, Germany
- School of Computer Science and Engineering, Seoul National University, Korea May 2000
- Department of Electrical and Computer Engineering, University of Toronto, Canada July 1999
- Star Core, Atlanta, GA, USA June 1999
- Intel, Santa Clara, CA, USA April 1999
- Sun Microsystems, Mountain View, CA, USA April 1999
- Hewlett Packard, Cupertino, CA, USA April 1999
- Department of Computer Science, University of Rochester, NY, USA March 1999
- Department of Computer Science and Engineering, Michigan State University, MI, USA March 1999
- Department of Computer Science, Florida State University, Tallahassee, FL, USA March 1999

**INVITED PANELS**

- **Predicting the Form of Next Generation Mobile Devices**  
Samsung Future Mobile Forum, Samsung Electronics, Korea July 2008
- **Grand Challenges in Embedded Software**  
EMSoft '07: The 7th ACM Conference on Embedded Software, Salzburg, Austria October 2007

**STUDENTS**• **Current Ph.D. Students**

Choonki Jang, Seungkyun Kim, Jungwon Kim, Junghyun Kim, Sangmin Seo, Jun Lee, Honggyu Kim, and Jungho Park

• **Graduated Ph.D. Students**

1. Bernhard Egger. "Dynamic Scratchpad Memory Management" February 2008  
Senior research staff member, Samsung Advanced Institute of Technology, Korea

• **Current M.S. Students**

Eunbyung Park, Yongjun Lee, Hongjune Kim, Joo Hwan Lee, Thanh Tuan Dao, Jeongho Nah, and Gangwon Jo

• **Graduated M.S. Students**

1. Jinho Pak. "The Design and Implementation of UI for Architecture Simulator" February 2010  
NCsoft, Korea
2. Honggyu Kim. "Adaptive Execution Techniques of Parallel Programs for SMT Multicore Processors," Ph.D. student, Seoul National University, Korea February 2010
3. Junghyun Kim. "The Design and Implementation of Parallelized Architecture Simulator for Embedded Systems," Ph.D. student, Seoul National University, Korea February 2009
4. Posung Chun. "Coherent Distributed Shared Memory Interface for Cell BE Cluster" February 2009  
TmaxSoft, Korea
5. Taejun Ha. "An Automatic Memory Subsystem Parameter Detection Program" February 2008  
TmaxSoft, Korea
6. Chihun Kim. "A Dynamic Code Placement Technique for Scratchpad Memory Using Postpass Optimization," Nexon, Korea February 2008
7. Kwangsub Kim. "Optimization Techniques for Cycle-Accurate Instruction Set Simulator," LG Electronics, Korea February 2008

## STUDENTS

- **Graduated M.S. Students (contd.)**

8. Yoonsung Nam. "Cycle-Accurate and Fast Simulation Techniques for ARM Processors" February 2007  
Samsung Electronics, Korea
9. Jongyoung Lee. "Reducing Execution Time of Memory Test Programs using SIMD Instructions and Caches in 64-bit Computing Environments," Samsung Electronics, Korea August 2006
10. Seokho Choi. "An Intermediate Representation for Preserving Source Level Information and Optimization," SKY Teletech, Korea August 2005
11. Kiwon Kwon. "SNACK-pop: A Postpass Optimizer for Embedded Systems" February 2005  
Qualcomm, Korea
12. Changhee Jung. "Helper Thread Prefetching for a Loosely-Coupled Multiprocessor System," Ph.D. student, School of Computer Science, Georgia Institute of Technology, GA, USA February 2005
13. Xing Fang. "Inserting Fences to Guarantee Sequential Consistency" August 2002  
Ph.D. Student, Electrical and Computer Engineering Department, Purdue University, IN, USA
14. H. D. K. Moonesinghe. "Adaptively Increasing Performance and Scalability of Automatically Parallelized Programs" August 2002

## COURSES TAUGHT

- **Graduate Courses**

- **Seoul National University**

- 4541.775 Topics in Compiler Construction, Fall 2003, 2004, 2005, 2006, 2007
- 4541.570 Advanced Compiler Construction, Spring 2006, 2007, 2010

- **Michigan State University**

- CSE 891 Advanced Program Analysis and Optimization Techniques, Fall 2001
- CSE 822 Parallel Processing Computer Systems, Spring 2001

- **Undergraduate Courses**

- **Seoul National University**

- 010.133 Digital Computer Concept and Practice, Spring 2010
- 010.143 Computer Principles, Spring 2008
- 4190.101 Discrete Mathematics, Spring 2003, 2004, 2005
- 4190.103 Programming Practice, Summer 2008, Fall 2009
- 4190.203 System Programming, Fall 2003, 2004
- 4190.209 Computer Engineering Seminar, Fall 2009
- 4190.210 Principles of Programming, Fall 2005, 2006, 2007
- 4190.310 Programming Languages, Fall 2002
- 4190.311A Project 1, Fall 2002
- 4190.409 Compilers, Spring 2003, 2004, 2005, 2006, 2007, 2008
- 4190.413A Project 2, Fall 2002

- **Michigan State University**

- CSE 320 Computer Organization and Assembly Language Programming, Fall 2000
- CSE 450 Translation of Programming Languages, Spring 2000, 2002

- **University of Illinois at Urbana-Champaign**

- CS 231 Computer Architecture I, Fall 1999
- CS 296 Honors Course in Computer Science, Fall 1999

## PUBLICATIONS

## Refereed Conference and Workshop Papers

1. Jungwon Kim, Honggyu Kim, Joo Hwan Lee, and Jaejin Lee. Achieving a Single Compute Device Image in OpenCL for Multiple GPUs, *PPoPP '11: Proceedings of the 16th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming*, pp. — , San Antonio, Texas, USA, February 2011
2. Yongjin Cho, Seungkyun Kim, Jaejin Lee, and Heonshik Shin. Parallelizing the H.264 Decoder on the Cell BE Processor. *EMSoft '10: Proceedings of the 10th ACM International Conference on Embedded Software*, pp. 49 — 58, Scottsdale, Arizona, October 2010.
3. Jaejin Lee, Jungwon Kim, Sangmin Seo, Seungkyun Kim, Jungho Park, Honggyu Kim, Thanh Tuan Dao, Yongjin Cho, Sung Jong Seo, Seung Hak Lee, Seung Mo Cho, Hyo Jung Song, Sang-Bum Suh, and Jong-Deok Choi. An OpenCL Framework for Heterogeneous Multicores with Local Memory, *PACT '10: Proceedings of the 19th ACM/IEEE/IFIP International Conference on Parallel Architectures and Compilation Techniques*, pp. 193 — 204, Vienna, Austria, September 2010, DOI: 10.1145/1854273.1854301.
4. Jaejin Lee, Jun Lee, Sangmin Seo, Jungwon Kim, Seungkyun Kim, and Zehra Sura. COMIC++: A Software SVM System for Heterogeneous Multicore Accelerator Clusters. *HPCA '10: Proceedings of the 16th IEEE International Symposium on High Performance Computer Architecture*, pp. 329 - 340, Bangalore, India, January 2010, DOI:10.1109/HPCA.2010.5416633.
5. Sangmin Seo, Jaejin Lee, and Zehra Sura. Design and Implementation of Software-Managed Caches for Multicores with Local Memory. *HPCA '09: Proceedings of the 15th IEEE International Symposium on High Performance Computer Architecture*, pp. 55 — 66, Raleigh, North Carolina, USA, February 2009, DOI:10.1109/HPCA.2009.4798237.
6. Jaejin Lee, Sangmin Seo, Chihun Kim, Junghyun Kim, Posung Chun, Zehra Sura, Jungwon Kim, and SangYong Han. COMIC: A Coherent Shared Memory Interface for Cell BE. *PACT '08: Proceedings of the 17th ACM/IEEE/IFIP International Conference on Parallel Architectures and Compilation Techniques*, pp. 303 — 314, Toronto, Canada, October 2008, DOI:10.1145/1454115.1454157, <http://doi.acm.org/10.1145/1454115.1454157>.
7. Bernhard Egger, Jaejin Lee, and Heonshik Shin. Scratchpad Memory Management in a Multitasking Environment. *EMSoft '08: Proceedings of the 8th ACM International Conference on Embedded Software*, pp. 265 — 274, Atlanta, Georgia, October 2008, DOI:10.1145/1450058.1450094, <http://doi.acm.org/10.1145/1450058.1450094>.
8. Jaejin Lee, Junghyun Kim, Choonki Jang, Seungkyun Kim, Bernhard Egger, Kwangsub Kim, and SangYong Han. FaCSim: A Fast and Cycle-Accurate Architecture Simulator for Embedded Systems. *LCTES '08: Proceedings of the ACM SIGPLAN/SIGBED 2008 International Conference on Languages, Compilers, and Tools for Embedded Systems* (also appears in ACM SIGPLAN Notices, Vol. 43, No. 7, July 2008), pp. 89 — 99, Tucson, Arizona, USA, June 2008, DOI:10.1145/1379023.1375670, <http://doi.acm.org/10.1145/1379023.1375670>.
9. Hyeongmin Cho, Bernhard Egger, Jaejin Lee, and Heonshik Shin. Dynamic Data Scratchpad Memory Management for a Memory Subsystem with an MMU. *LCTES '07: Proceedings of the ACM SIGPLAN/SIGBED 2007 International Conference on Languages, Compilers, and Tools for Embedded Systems* (also appears in ACM SIGPLAN Notices, Vol. 42, No. 7, July 2007), pp. 195 — 206, San Diego, USA, June 2007, DOI:10.1145/1273444.1254804, <http://doi.acm.org/10.1145/1273444.1254804>.
10. Bernhard Egger, Jaejin Lee, and Heonshik Shin. Scratchpad Memory Management for Portable Systems with a Memory Management Unit. *EMSoft '06: Proceedings of the 6th ACM International Conference on Embedded Software*, pp. 321 — 330, Seoul, Korea, October 2006, DOI:10.1145/1176887.1176933, <http://doi.acm.org/10.1145/1176887.1176933>.
11. Bernhard Egger, Chihun Kim, Choonki Jang, Yoonsung Nam, Jaejin Lee, and Sang Lyul Min. A Dynamic Code Placement Technique for Scratchpad Memory using Postpass Optimization. *CASES '06: Proceedings of the 2006 International Conference on Compilers, Architecture, and Synthesis for Embedded Systems*, pp. 223 — 233, Seoul, Korea, October 2006, DOI:10.1145/1176760.1176788, <http://doi.acm.org/10.1145/1176760.1176788>.

## PUBLICATIONS

## Refereed Conference and Workshop Papers (contd.)

12. Changhee Jung, Daesub Lim, Jaejin Lee, Yan Solihin. Helper Thread Prefetching for Loosely-Coupled Multiprocessor Systems, *IPDPS '06: Proceedings of the 2006 IEEE International Parallel & Distributed Processing Symposium*, pp. 118 – 127, Rhodes Island, Greece, April 2006, DOI:10.1109/IPDPS.2006.1639375, <http://doi.ieeecomputersociety.org/10.1109/IPDPS.2006.1639375>.
13. Chi-Leung Wong, Zehra Sura, Xing Fang, Kyungwoo Lee, Samuel P. Midkiff, Jaejin Lee, and David Padua. Evaluating the Impact of Thread Escape Analysis on a Memory Consistency Model-Aware Compiler. *LCPC '05: Proceedings of the 18th International Workshop on Languages and Compilers for Parallel Computing* (also appears in Springer-Verlag Lecture Notes in Computer Science, Vol. 4339, 2007), pp. 170 – 184, Hawthorne, New York, October 2005, DOI:10.1007/978-3-540-69330-7\_12.
14. Zehra Sura, Xing Fang, Chi-Leung Wong, Samuel P. Midkiff, Jaejin Lee, and David Padua. Compiler Techniques for High Performance Sequentially Consistent Java Programs. *PPoPP '05: Proceedings of the ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming*, pp. 2 – 13, Chicago, Illinois, USA, June 2005, DOI:10.1145/1065944.1065947, <http://doi.acm.org/10.1145/1065944.1065947>.
15. Changhee Jung, Daeseob Lim, Jaejin Lee, and SangYong Han. Adaptive Execution Techniques for SMT Multiprocessor Architectures. *PPoPP '05: Proceedings of the ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming*, pp. 236 – 246, Chicago, Illinois, USA, June 2005, DOI: 10.1145/1065944.1065976, <http://doi.acm.org/10.1145/1065944.1065976>.
16. Chanik Park, Junghee Lim, Kiwon Kwon, Jaejin Lee, and Sang Lyul Min. Compiler Assisted Demand Paging for Embedded Systems with Flash Memory. *EMSoft '04: Proceedings of the 4th ACM International Conference on Embedded Software*, pp. 114 – 124, Pisa, Italy, September 2004, DOI: 10.1145/1017753.1017775, <http://doi.acm.org/10.1145/1017753.1017775>.
17. Bernhard Egger, Jaejin Lee, and Heonshik Shin. An Application-Specific and Adaptive Power Management Technique. *PARC '04: Proceedings of the First International Workshop on Power-Aware Real-Time Computing* (in conjunction with EMTSoft '04), Pisa, Italy, September 2004, <http://www.cs.pitt.edu/PARC/parc-6.pdf>.
18. Sheayun Lee, Jaejin Lee, Chang Yun Park, and Sang Lyul Min. Flexible Tradeoff between Code Size and WCET Using a Dual Instruction Set Processor. *SCOPES '04: Proceedings of the 8th International Workshop on Software and Compilers for Embedded Systems* (also appears in Springer-Verlag Lecture Notes in Computer Science, Vol. 3199, 2004), pp. 244 – 258, Amsterdam, Netherlands, September 2004, DOI:10.1007/b99901. (Best Paper Award)
19. Mazen Kharbutli, Yan Solihin, and Jaejin Lee. Using Prime Numbers for Cache Indexing to Eliminate Conflict Misses. *HPCA '04: Proceedings of the 10th International Symposium on High Performance Computer Architecture*, pp. 288 – 299, Madrid, Spain, February 2004, DOI:10.1109/HPCA.2004.10015.
20. Sheayun Lee, Jaejin Lee, Sang Lyul Min, Jason Hiser, and Jack W. Davidson. Code Generation for a Dual Instruction Set Processor Based on Selective Code Transformation. *SCOPES '03: Proceedings of the 7th International Workshop on Software and Compilers for Embedded Systems* (also appears in Springer-Verlag Lecture Notes in Computer Science, Vol. 2826, 2003), pp. 33 – 48, Vienna, Austria, September 2003, DOI:10.1007/b13482.
21. Sheayun Lee, Jaejin Lee, Chang Yun Park, and Sang Lyul Min. A Flexible Tradeoff between Code Size and WCET Employing Dual Instruction Set Processors. *WCET '03: Proceedings of the 3rd International Workshop on Worst-Case Execution Time Analysis*, pp. 91 – 94, Porto, Portugal, July 2003.
22. Xing Fang, Jaejin Lee, and Samuel P. Midkiff. Automatic Fence Insertion for Shared Memory Multiprocessing. *ICS '03: Proceedings of the 17th ACM International Conference on Supercomputing*, pp. 285 – 294, San Francisco, Bay Area, USA, June 2003, DOI:10.1145/782814.782854, <http://doi.acm.org/10.1145/782814.782854>.
23. Jaejin Lee and H. D. K. Moonesinghe. Adaptively Increasing Performance and Scalability of Automatically Parallelized Programs. *LCPC '02: Proceedings of the 15th International Workshop on Languages and Compilers for Parallel Computing* (also appears in Springer-Verlag Lecture Notes in Computer Science, Vol. 2481, 2005), pp. 203 – 217, College Park, Maryland, USA, July 2002, DOI:10.1007/11596110\_14.

## PUBLICATIONS

## Refereed Conference and Workshop Papers (contd.)

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