

## Jaejin Lee (이재진)

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## CURRICULUM VITAE

### EDUCATION

Ph.D. in Computer Science University of Illinois at Urbana-Champaign ( <b>UIUC</b> ), IL, USA	August 1995 – October 1999
M.S. in Computer Science Stanford University, CA, USA	September 1993 – June 1995
B.S. in Physics Seoul National University ( <b>SNU</b> ), Seoul, Korea	March 1986 – February 1991

### RESEARCH INTERESTS

Compiler, operating system and architecture interactions  
Heterogeneous computer systems

### EXPERIENCES

Director, Center for Manycore Programming, SNU (미래창조과학부/리더연구자지원사업/창의적연구, 매니코어 프로그래밍 연구단 단장)	April 2009 – Present
Associate Head of Academic Affairs (서울대학교 컴퓨터공학부 교무부학부장)	September 2016 – August 2018
Professor (서울대학교 컴퓨터공학부 교수)	October 2010 – Present
Associate Professor (서울대학교 컴퓨터공학부 부교수)	October 2004 – September 2010
Assistant Professor (서울대학교 컴퓨터공학부 조교수) Dept. of Computer Science and Engineering, SNU	September 2002 – September 2004
Director, Platform Technology Division, Big Data Institute, SNU (서울대학교 빅데이터연구원 플랫폼기술부 부장)	July 2014 – July 2018
Managing Director, Institute of Computer Technology, SNU (서울대학교 컴퓨터연구소 운영부장)	November 2013 – November 2015, September 2016 – November 2017
Visiting Scholar, Dept. of Electrical and Computer Engineering, Purdue University	September 2015 – August 2016
Consultant, Software Center, Samsung Electronics, South Korea (삼성전자 소프트웨어센터 Big Data/Intelligence/Cloud 분야 자문교수)	March 2015 – April 2016

## EXPERIENCES (contd.)

<b>Professor in Special Affairs</b> (서울대학교 중앙전산원 특임교수) <b>Director, System Administration Division</b> (서울대학교 중앙전산원 시스템 부장) University Computer Center, SNU	August 2007 – September 2008 October 2004 – Aug. 2007
<b>Assistant Professor</b> (미국 미시간 주립대학교 컴퓨터공학과 조교수) Dept. of Computer Science and Engineering, Michigan State University	January 2000 – August 2002
<b>Visiting Lecturer and Postdoctoral Research Associate</b> Dept. of Computer Science, UIUC	August 1999 – December 1999
<b>Summer Intern, IBM T. J. Watson Research Center</b>	June 1997 – August 1997
<b>Research Assistant</b> Dept. of Computer Science, UIUC Center for Supercomputing Research and Development, UIUC Dept. of Computer Science, Stanford University	January 1997 – August 1999 January 1996 – December 1997 September 1994 – March 1995
<b>Teaching Assistant</b> Dept. of Computer Science, UIUC Dept. of Computer Science, Stanford University	August 1995 – December 1995 January 1995 – June 1995
<b>Military Service, Korean Army</b>	January 1991 – June 1992

## HONORS and AWARDS

<b>Citation Award, Minister of Science, ICT and Future Planning, Korea</b> (미래창조과학부 장관 표창)	December 2014
<b>Citation Award, Director of the National Intelligence Service, Korea</b> (국가정보원장 표창)	December 2014
<b>100 Future Technologies and Leading Persons Advancing Korean Industry in 2020</b> Listed in Exascale Computer Systems, The National Academy of Engineering of Korea (한국공학한림원 2020년 대한민국 산업을 이끌 미래 100대 기술과 주역, 소프트웨어 분야 Exascale 컴퓨터 시스템)	December 2013
<b>Teaching Excellence Award</b> (서울대학교 공과대학 우수교육상) <b>Research Excellence Award</b> (서울대학교 공과대학 우수연구상) College of Engineering, SNU	2011, 2012 2009, 2010
<b>NSF CAREER Award, National Science Foundation, USA</b> (awarded but withdrawn before finalization due to the movement to SNU)	May 2003
<b>Best Paper Awards</b> SCOPE5 '04: The 8th International Workshop on Software and Compilers for Embedded Systems MTEAC-5: The 5th Workshop on Multithreaded Execution, Architecture, and Compilation	September 2004 December 2001
<b>IBM Ph.D. Fellowship</b>	Aug. 1997 – May 1999
<b>Korea Foundation for Advanced Studies Fellowship</b> (한국고등교육재단 해외유학 장학금)	September 1997 – August 1999

## RESEARCH GRANTS

(1.00 USD = 1,141 KRW as of November 2016)

- [1] Center for Manycore Programming (매니코어 프로그래밍 연구단), Sole PI, Ministry of Science, ICT and Future Planning (미래창조과학부/창의적연구/한국연구재단), 5,553,000,000 KRW, April 2009 – February 2018
- [2] OpenCL-based Performance Acceleration Environment that Supports Various Platforms (다양한 플랫폼을 지원하는 OpenCL 기반 성능 가속 환경 개발), PI, Hancorn Inc. ((주)한글과 컴퓨터), 100,000,000 KRW, February 2016 – January 2017
- [3] Parallelization Techniques of Integrated Data Processing Systems for the Geostationary Ocean Color Imager (해양탐재체 통합자료 처리시스템 작업 병렬화 기법 연구), PI, Ministry of Oceans and Fisheries (해양수산부 / 해양수산연구개발사업 / 한국해양과학기술진흥원, 위탁연구), 40,000,000 KRW, January 2016 – December 2016
- [4] SRP-based CPU Off-loading Techniques (SRP 기반 CPU Off-loading 기술 개발), PI, Samsung Electronics, 40,000,000 KRW, April 2016 – November 2016
- [5] Many-SC Programming Model (Many-SC 프로그래밍 모델 연구), PI, Samsung Electronics, 286,000,000 KRW, November 2013 – November 2016
- [6] An Educational Program for Multicore Programming Experts using Domestic Supercomputer Chundoong (국산 슈퍼컴 “천둥”을 활용한 멀티코어 프로그래밍 전문가 과정), PI, Small and Medium Business Administration (중소기업청 / 취업연계 R&D 교육센터운영사업 / (사)중소기업기술혁신협회), 343,200,000 KRW, April 2015 – December 2015
- [7] Optimization Techniques of JavaScript for Web Applications (웹 애플리케이션을 위한 자바스크립트 최적화 연구), PI, LG Electronics, 90,000,000 KRW, December 2014 – December 2015
- [8] OpenCL-based Cryptographic Library (OpenCL 기반 암호 라이브러리), PI, Korea Institute of Information Security and Cryptology (한국정보보호학회), 45,000,000 KRW, February 2015 – November 2015
- [9] Performance Enhancement Techniques using OpenCL (OpenCL을 활용한 성능향상 기술 개발), PI, Hancorn Inc. ((주)한글과 컴퓨터), 100,000,000 KRW, October 2014 – September 2015
- [10] Core Technology Development for HMA-based System Optimizations (HMA 기반의 시스템 최적화를 위한 요소 기술 개발), co-PI, Samsung Electronics, 1,200,000,000 KRW, July 2012 – September 2015 (with Hyeonsang Eom (PI) et al.)
- [11] An Educational Program for Multicore Programming Experts using Domestic Supercomputer Chundoong: From Mobile Devices to Supercomputers ([모바일 기기부터 슈퍼컴퓨터까지] 국산 슈퍼컴 “천둥”을 활용한 멀티코어 프로그래밍 전문가 과정), PI, Small and Medium Business Administration (중소기업청/취업연계 R&D 교육센터운영사업/(사)중소기업기술혁신협회), 325,000,000 KRW, May 2014 – December 2014
- [12] Optimizing OpenCL-based Cryptographic Algorithms for GPUs (GPU를 위한 OpenCL 기반 암호 알고리즘 최적화), PI, Korea Institute of Information Security and Cryptology (한국정보보호학회), 45,000,000 KRW, February 2014 – November 2014
- [13] Development of the Big Data Processing Platform based on Manycore Performance Acceleration (매니코어 성능가속형 빅데이터 처리 플랫폼 개발), PI (with ManyCoreSoft Co., Ltd.), Small and Medium Business Administration (중소기업청/산학연 첫걸음기술개발사업), 89,827,000 KRW, July 2013 – June 2014
- [14] Detailed Planning of Developing Domestic Supercomputing System and Utilization Strategy (국산 초고성능컴퓨팅 시스템 자체개발 및 활용체계 수립 상세 기획), PI, Ministry of Science, ICT and Future Planning (미래창조과학부 기초원천연구기획과제), 60,000,000 KRW, September 2013 – January 2014
- [15] High Performance Computing Devices (고성능 연산장치 용역연구), PI, Ministry of National Defense (국방부/국군 제3707부대, 용역연구), 48,456,822 KRW, September 2013 – December 2013
- [16] Educational Programs for Parallel Processing Experts using Domestic Supercomputer Chundoong (국산 슈퍼컴 “천둥”을 활용한 병렬 프로그래밍 전문가 과정), PI, Small and Medium Business Administration (중소기업청 / 취업연계 R&D 교육센터운영사업 / (사)중소기업기술혁신협회), 320,000,000 KRW, April 2013 – December 2013

## RESEARCH GRANTS (contd.)

(1.00 USD = 1,141 KRW as of November 2016)

- [17] Software Techniques for Power Consumption Reduction in Asymmetric Multicore Mobile Platforms (비대칭 멀티코어 모바일 플랫폼의 전력소모 감소를 위한 소프트웨어 기법), PI, Samsung Electronics, 50,000,000 KRW, November 2012 – April 2014
- [18] Planning and Pilot Study for Establishing Big Data Center (빅 데이터 센터 설립을 위한 기획 및 시범 연구), Co-PI, Seoul National University, 150,000,000 KRW, November 2012 – October 2013 (with Sungzoon Cho (PI) et al.)
- [19] Memory Footprint Reduction for Tizen Platform and Analysis and Improvement of the Structure of Web-runtime (Tizen 플랫폼의 메모리 사용량 최적화 및 Web-runtime 관련 구조 분석 및 개선안 연구), PI, Samsung Electronics, 120,000,000 KRW, July 2012 – September 2013
- [20] OpenCL Support for ARM Processors, PI, Samsung Electronics, 100,000,000 KRW, August 2012 – June 2013
- [21] OpenCL Runtime and Compiler for SRP (SRP를 위한 OpenCL 런타임 및 컴파일러의 개발), PI, Samsung Electronics, 90,000,000 KRW, April 2012 – April 2013
- [22] Preliminary Research for Performance Acceleration Programming Models and Parallel Processing Technologies (성능 가속 병렬 프로그래밍 모델 및 병렬처리 기술 선행 연구), PI, Ministry of Knowledge Economy (지식경제부 / 산업원천기술개발사업 / 한국전자통신연구원, 위탁연구), 30,000,000 KRW, July 2011 – January 2012
- [23] Optimizing Browser's JavaScript for Multicore Embedded Platforms, PI, Samsung India, 76,040,145 KRW, August 2010 – March 2011
- [24] Designation of an APP Creation Site and Its Management (앱(APP) 창작터 지정 운영 사업), Co-PI, Small and Medium Business Administration (중소기업청), 100,000,000 KRW, May 2010 – December 2010 (with Sang-Goo Lee (PI) et al.)
- [25] Smart Linkers for Mobile Phones (Mobile Phone 환경을 위한 Smart Linker 개발), PI, Samsung Electronics, 70,000,000 KRW, April 2009 – October 2009
- [26] OpenCL Runtimes and Compilers for Multicore Platforms (멀티코어 플랫폼을 위한 OpenCL 런타임 및 컴파일러의 개발), PI, Samsung Electronics, 150,000,000 KRW, March 2009 – December 2009
- [27] Executable Image Partitioning and Transformation Techniques for Security (보안을 위한 실행이미지 분할 및 변환 기술에 대한 연구), PI, INNOACE Co., Ltd., (SK 텔레콤 / 이노에이스(주)), 100,000,000 KRW, December 2008 – December 2009
- [28] Multisensor-Based Cognitive Information Processing Technologies for Human-Machine Interaction (오감기반 상호인지 정보처리 구현기술), Co-PI, Ministry of Education, Science and Technology (교육과학기술부 / 나노원천기술개발사업 / 한국과학재단), 30,000,000 KRW, October 2008 – April 2009 (with Byoung-Tak Zhang (PI) et al.)
- [29] Innovating Software Education with Open Source Software (공개 SW 기반 SW 교육 혁신 프로젝트), Co-PI, Ministry of Knowledge Economy (지식경제부 / 한국소프트웨어진흥원), 152,000,000 KRW, October 2008 – December 2010 (with Hyung-Joo Kim (PI) et al.)
- [30] Analysis of Memory Access Patterns of Operating Systems and Applications in Multicore Server Environments (멀티코어 서버 환경에서 운영체제 및 응용프로그램의 메모리 참조 패턴 분석), PI, Samsung Electronics, Korea. 115,000,000 KRW, May 2008 – December 2010
- [31] Memory Optimization Techniques for Coarse-Grained Reconfigurable Processors, PI, Samsung Electronics, Korea. 120,000,000 KRW, June 2008 – February 2010
- [32] Development of Flash Memory-based Embedded Multimedia Software (Flash Memory 기반 임베디드 멀티미디어 소프트웨어 기술 개발), Co-PI, Ministry of Knowledge Economy (지식경제부/IT 핵심기술개발사업/정보통신연구진흥원), 2,980,000,000 KRW, March 2006 – February 2009 (with Sang Lyul Min (PI) et al.)
- [33] Dynamic Voltage and Frequency Scaling Techniques based on Process Characteristics and Automatic Software Development Tools for the Techniques (프로세스 특성에 따른 Voltage 및 Frequency 동적 조절 기법의 개발과 그 적용을 위한 자동화 도구의 개발), PI, Samsung Electronics, 80,000,000 KRW, January 2008 – November 2008

## RESEARCH GRANTS (contd.)

(1.00 USD = 1,141 KRW as of November 2016)

- [34] Embedded Software Optimization using Compiler Techniques (컴파일러 기술을 이용한 임베디드 SW 최적화 기법 연구), PI, Electronics and Telecommunications Research Institute (한국전자통신연구원), 30,000,000 KRW, September 2007 – January 2008
- [35] Memory Hierarchy Management for Reconfigurable Processors (재구성 가능한 프로세서를 위한 메모리 계층구조 관리 기법), PI, Samsung Electronics, 60,000,000 KRW, December 2006 – November 2007
- [36] Dual Processor Design Techniques for Mobile Devices, PI, Ministry of Information and Communication (정보통신부), 160,000,000 KRW, April 2006 – November 2007
- [37] A Target Independent Cross Compilation Environment for Mobile Devices (모바일 단말을 위한 타겟 크로스 컴파일 환경 연구), PI, Electronics and Telecommunications Research Institute (한국전자통신연구원), 30,000,000 KRW, September 2006 – January 2007
- [38] 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.)
- [39] Developing a DRAM Test Program and an Operating System that are Optimized for Chip Multiprocessors (Chip Multiprocessor에 최적화된 메모리 테스트 프로그램 및 이를 위한 운영체제 환경의 개발), PI, SAMSUNG Electronics, 70,000,000 KRW, January 2006 – December 2006 (with Jongmoo Choi)
- [40] 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)
- [41] Automatic Code Overlays and Mask ROM Patching using Compiler Techniques (컴파일러 기술을 이용한 Code Overlay 및 Mask ROM Patch 자동화), PI, SAMSUNG Electronics, 60,000,000 KRW, January 2005 – December 2005
- [42] Developing an Efficient DRAM Test Program Optimized for the 32/64-bit Computing Environment (32/64 비트 환경에 최적화된 고효율 메모리 테스트 프로그램 개발), Co-PI, Samsung Electronics, 50,000,000 KRW, December 2004 – November 2005 (with Jongmoo Choi (PI))
- [43] 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))
- [44] 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
- [45] 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)
- [46] 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 Committees

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

### Organizing Committees

- \* National Supercomputing Summer School @ SNU (Accelerator Programming)  
Principal, August 22 – 26, 2016, August 17 – 21, 2015  
Kumho Asiana HRD Institute (금호아시아나 인재개발원), Yongin, Korea  
Principal, August 11 – 14, 2014, August 19 – 22, 2013  
Daelim Education and Research Institute (대림교육연구원), Yongin, Korea
- \* National Supercomputing Winter School @ SNU (Accelerator Programming)  
Principal, February 22 – 26, 2016, February 9 – 13, 2015, February 10 – 14, 2014  
Kumho Asiana HRD Institute (금호아시아나 인재개발원), Yongin, Korea
- \* ISCA'16: The 43<sup>rd</sup> ACM/IEEE International Symposium on Computer Architecture  
Local arrangement chair, June 18 – 22, 2016, Seoul, Korea
- \* 2013 Accelerator Programming Winter School  
Principal, February 18 – 22, 2013, Daekyo HRD Center (대교 HRD 센터), Siheung, Kyungkido, Korea
- \* ICPADS: IEEE International Conference on Parallel and Distributed Systems  
Program co-chair (with Sam Midkiff), The 19<sup>th</sup>, December, 2013, Seoul, Korea  
Vice program co-chair (with Chung-Ping Chung), Multicore Computing and Parallel/Distributed Architecture track,  
The 17<sup>th</sup>, December 2011, Tainan, Taiwan  
Vice program co-chair (with Ninghui Sun), Multicore Computing and Parallel/Distributed Architecture track, The 15<sup>th</sup>,  
December 2009, Shenzhen, China
- \* APSys: Asia-Pacific Workshop on Systems  
Vice chair, July, 2012, Seoul, Korea
- \* Cluster: IEEE International Conference on Cluster Computing  
Vice program chair, Communication and Memory track, September, 2012, Beijing, China
- \* INTERACT: Workshop on Interaction between Compilers and Computer Architectures  
General chair, The 16<sup>th</sup>, February, 2012, New Orleans, Louisiana, USA  
Program co-chair (with Gayatri Mehta), The 15<sup>th</sup>, February 2011, San Antonio, Texas, USA
- \* Heterogeneous Computing Summer School, Co-organizer (with Dongwoo Sheen and Jysoo Lee)  
August 16 – 27, 2011, Hanbada Training Center (한바다 연수원), Gapyeong, Kyungkido, Korea
- \* Heterogeneous Computing Winter School  
Organizer February 21 – 24, 2011, Small Business Training Center (중소기업 연수원) Ansan, Kyungkido, Korea
- \* CF: ACM International Conference on Computing Frontiers  
Publicity co-chair, May, 2011, Ischia, Italy

## PROFESSIONAL ACTIVITIES

### Organizing Committees (contd.)

- \* LCTES: ACM Conference on Languages, Compilers and Tools for Embedded Systems  
**General chair**, April 2010, Stockholm, Sweden  
**Publicity chair**, June, 2007, San Diego, California, USA
- \* Dagstuhl Seminar 03431, Hardware and Software Consistency Models: Programmability and Performance  
**Co-organizer** (with Sam Midkiff and David A. Padua), October 2003, Germany
- \* JVM: USENIX Java Virtual Machine Research and Technology Symposium  
**Work-In-Progress session organizer**, August 2002, San Francisco, CA, USA

### Editorial Boards

- \* Journal of Parallel and Distributed Computing October 2015 – Present
- \* Journal of Korean Institute of Information Scientists and Engineers January 2008 – February 2016

### Program Committees

- \* APPLC: Asia-Pacific Programming Languages and Compilers Workshop (2012, 2013)
- \* APPT: Advanced Parallel Processing Technology Symposium (2011)
- \* CGO: International Symposium on Code Generation and Optimization (2016)
- \* EMSoft: ACM SIGBED Conference on Embedded Software (2006, 2007)
- \* EUC: IFIP International Conference on Embedded and Ubiquitous Computing (2006, 2008, 2009, 2010)
- \* GPGPU: Workshop on General Purpose Processing on Graphics Processing Units (2012)
- \* HiPC: IEEE International Conference on High Performance Computing (2008, 2009)
- \* HiPEAC: European Network of Excellence on High Performance and Embedded Architecture and Compilation Conference (Distinguished reviewer for ACM TACO)  
 2013, 2014, 2015, 2016
- \* ICPADS: The 12th International Conference on Parallel and Distributed Systems (2006, 2015)
- \* ICPP: International Conference on Parallel Processing  
 Multicores and Parallel Systems track : 2011  
 Software Systems and Tools track: 2008
- \* ICS: ACM International Conference on Supercomputing  
 2009, 2012, 2013, 2014, 2017
- \* INTERACT: Workshop on Interaction between Compilers and Computer Architectures (2010)
- \* IPDPS: IEEE International Parallel and Distributed Processing Symposium  
 2008, 2013, 2014, 2015
- \* ISPAN: International Symposium on Parallel Architectures, Algorithms, and Networks (2002)

## PROFESSIONAL ACTIVITIES

### Program Committees (contd.)

- \* ISC High Performance, Research Posters (2017)
- \* JVM: USENIX Java Virtual Machine Research and Technology Symposium (2002)
- \* LCTES: ACM Conference on Languages, Compilers, and Tools for Embedded Systems  
2007, 2008, 2011, 2013
- \* MSPC: ACM SIGPLAN Workshop on Memory Systems Performance and Correctness (2013)
- \* PACT: IEEE/ACM/IFIP International Conference on Parallel Architectures and Compilation Techniques  
2007, 2011, 2012, 2014, 2016
- \* PPOPP: ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming  
2011, 2017
- \* RTSS: IEEE Real-Time Systems Symposium, 2010 (Design and Verification track)
- \* SC: International Conference for High Performance Computing, Networking, Storage and Analysis  
Programming Systems track: 2012, 2013, 2016  
Emerging Technologies track: 2015  
Research Posters: 2016

### External Review Committees

- \* HPCA: IEEE Symposium on High Performance Computer Architecture (2016)
- \* ISCA: International Symposium on Computer Architecture (2014, 2015)
- \* MICRO: Annual IEEE/ACM International Symposium on Microarchitecture (2012)
- \* PLDI: ACM SIGPLAN Conference on Programming Language Design and Implementation (2011)
- \* PPOPP: ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (2013)

### 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, Euro-micro Workshop on Parallel and Distributed Processing, ACM Java Grande Conference, Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA), Future Generation Computer Systems, Microprocessors and Microsystems, IEEE Micro



## PROFESSIONAL ACTIVITIES

### Korean Government Committees

- \* ICT Subcommittee Chair, Expert Committee on ICT and Convergence Technology January 2015 – April 2016  
(국가과학기술심의회 ICT·융합 전문위원회, ICT 소위원회 위원장)  
National Science and Technology Council Korea
- \* National Supercomputing Practices Committee November 2012 – November 2014  
(국가초고성능컴퓨팅 실무위원회 위원)  
Ministry of Science, ICT and Planning, Korea
- \* Expert Committee on Advanced Convergence Technology April 2013 – January 2015  
(국가과학기술심의회 첨단융합 전문위원회 위원)  
National Science and Technology Council, Korea
- \* Review Board (한국연구재단 컴퓨터시스템 분야 RB) June 2012 – June 2014  
Computer Systems area, National Research Foundation of Korea

### Other Committees

External Ph.D. Thesis Committee (Yan Solihin), Dept. of Computer Science, UIUC 2002

### Member of

IEEE, ACM, and the Korean Institute of Information Scientists and Engineers (KIISE)

## INVITED PANELS

- \* College Education Innovation Plans for the 4<sup>th</sup> Industrial Revolution October 2016  
Subcommittee of College Education Innovation / Educational Policy Advisory Committee / Ministry of Education, Library of Korean Congress  
(제4차 산업혁명 대비 대학교육혁신 방안, 교육부/교육정책자문위원회/대학교육개혁분과, 국회도서관 소회의실)
- \* Predicting the Form of Next Generation Mobile Devices July 2008  
Samsung Future Mobile Forum, Samsung Electronics, Korea
- \* Grand Challenges in Embedded Software October 2007  
EMSoft '07: The 7th ACM Conference on Embedded Software, Salzburg, Austria

## TUTORIALS

- \* SnucL: A Unified OpenCL Framework  
PPoPP '14: ACM SIGPLAN 2014 Symposium on Principles and Practice of Parallel Programming February 2014, Orlando, Florida, USA
- \* OpenCL for Heterogeneous Clusters  
ISC '13: International Supercomputing Conference, June 2013, Leipzig, Germany
- \* SnucL: An OpenCL Framework for Heterogeneous Clusters  
ICS '13: ACM International Conference on Supercomputing, June 2013, Eugene, Oregon, USA  
PACT '13: The 22nd IEEE/ACM/IFIP International Conference on Parallel Architectures and Compilation Techniques, September 2013, Edinburgh, Scotland

## TUTORIALS (contd.)

- \* SnuCL: An OpenCL Framework for Heterogeneous CPU/GPU Clusters  
CGO '12: International Symposium on Code Generation and Optimization, March 2012, San Jose, California, USA  
ICS '12: ACM International Conference on Supercomputing, June 2012, Venice, Italy  
PLDI '12: ACM SIGPLAN 2012 Conference on Programming Language Design and Implementation, June 2012, Beijing, China  
PPoPP '12: ACM SIGPLAN 2012 Symposium on Principles and Practice of Parallel Programming, February 2012, New Orleans, Louisiana, USA
- \* SnuCL: An OpenCL Framework and Unified Programming Model for Heterogeneous CPU/GPU Clusters  
PACT '11: The 20th IEEE/ACM/IFIP International Conference on Parallel Architectures and Compilation Techniques, October 2011, Galveston Island, Texas, USA  
KCC '11: Korea Computer Congress, June 2011, Kyungju, Korea

## INVITED TALKS

- \* Scalable Heterogeneous Programming Models for Deep Learning Applications  
ACM SIGARCH Korea Chapter Workshop (Keynote) October 2016  
WASEA – Workshop on Architecture and Software for Emerging Applications (PACT '16) September 2016
- \* Foundational Skills and User Lock-in (기본기와 사용자 Lock-in) November 2015  
SW Future Vision 2020, Software Center, Samsung Electronics, Suwon, Korea
- \* Introduction to Computer Science January 2015 (3 days), July 2014 (3 days), January 2014 (3 days), July 2013 (2 days)  
Samsung Convergence Software Academy, Samsung SDS, Seoul, Korea
- \* Software Basic January 2015 (2 days), July 2014 (2 days), January 2014 (2 days), July 2013 (2 days)  
Samsung Convergence Software Academy, Samsung SDS, Seoul, Korea
- \* The Design of Water-Cooled HPC Systems and Their Application Parallelization and Optimizations December 2014  
Semiconductor Division, Samsung Electronics, Yongin, Korea
- \* Software Development for Embedded Multicore Systems April 2014 (3 days), July 2013 (3 days), April 2013 (3 days)  
Samsung Advanced Technology Training Institute, Suwon, Korea
- \* Compiler Optimization Techniques, DS division, Samsung Electronics, Korea December 2013
- \* Code Optimization Techniques, Samsung Advanced Technology Training Institute, Suwon, Korea July 2013 (3 days)
- \* Heterogeneous Computing and Software Issues, System LSI division, Samsung Electronics, Korea May 2013
- \* A Small but Powerful Supercomputer Chundoong and Its Programming Model January 2013  
Winter Workshop, SIG on Computer Systems, The Korean Institute of Information Scientists and Engineers
- \* Introduction to Multicores, DMC division, Samsung Electronics, Korea November 2012
- \* Introduction to Parallel Software Development  
DS division, Samsung Electronics, Korea November 2012  
Samsung Advanced Technology Training Institute, Suwon, Korea September 2012
- \* SnuCL and an MPI+ OpenCL implementation of HPL on heterogeneous CPU/GPU clusters May 2012  
ATIP/A\*CRC Workshop on Accelerator Technologies for High-Performance Computing, Biopolis, Singapore
- \* Compilers, DS division, Samsung Electronics, Korea March 2012

## INVITED TALKS (contd.)

- \* SnuCL: An OpenCL Vehicle for Heterogeneous Computing, Korea University December 2011
- \* Architectures and Programming Models for Heterogeneous Parallel Computing November 2011  
Samsung Multicore Forum, Samsung Advanced Institute of Technology, Korea
- \* OpenCL as a Programming Model for Large Scale Heterogeneous Computing November 2011  
International Workshop on Exascale Supercomputing
- \* Programming Models for Heterogeneous Computing October 2011  
Dept. of Computer Science, Korea Advanced Institute of Science and Technology
- \* Trends and Issues in Heterogeneous Computing September 2011  
Samsung Advanced Technology Training Institute, Suwon, Korea
- \* Software Development for Embedded Multicore Systems September 2011 (3 days)  
Samsung Advanced Technology Training Institute, Suwon, Korea
- \* SnuCL: An OpenCL Framework and Unified Programming Model for Heterogeneous CPU/GPU Clusters July 2011  
Fudan University, Shanghai, China
- \* OpenCL as a Unified Programming Interface for CPU-GPU Clusters January 2011  
KISTI (Korea Institute of Science and Technology Information), Daejeon, Korea
- \* Multicore Software Development November 2010 (2 days)  
Samsung Advanced Technology Training Institute, Suwon, Korea
- \* A Software SVM Approach for Heterogeneous Multicore Accelerator Clusters May 2010  
Multicore/GPU Computing Workshop, KIAS (Korea Institute for Advanced Study)  
The Korean Society for Computational Sciences and Engineering, Korea
- \* Introduction to OpenCL February 2010  
Korea Institute of Science and Technology, Seoul, Korea  
September 2009  
Samsung India Software Operations, Bangalore, India
- \* Software SVM Approach for Heterogeneous Accelerator Multicore Architectures January 2010  
Winter Workshop, Special Interest Group on Computer Systems  
The Korean Institute of Information Scientists and Engineers, Korea  
January 2010  
Samsung India Software Operations, Bangalore, India
- \* Parallel Programming Models and OpenCL in the Multicore Era November 2009  
Samsung Multicore Forum, Samsung Advanced Institute of Technology, Korea
- \* Compilers and Runtimes Support for Explicitly Managed Memory Hierarchies July 2009 (5 days, 1 lecture/day)  
ACACES '09: the fifth International Summer School on Advanced Computer  
Architecture and Compilation for Embedded Systems, Terrassa, Spain
- \* FaCSim: A Fast and Cycle-Accurate Architecture Simulator for Embedded Systems November 2008  
Digital Media Division, Samsung Electronics, Korea
- \* COMIC: A Coherent Shared Memory Interface for Cell BE December 2008  
Samsung Advanced Institute of Technology, Korea  
October 2008  
School of Computer Science, Georgia Institute of Technology, Atlanta, USA  
October 2008  
IBM T. J. Watson Research Center, Hawthorne, New York, USA

## INVITED TALKS (contd.)

- \* Multicore Programming Models, Telecommunication Network Division, Samsung Electronics, Korea September 2008
- \* Issues in Parallel Programming Models for Multi/Manycores August 2008  
Samsung Advanced Institute of Technology, Korea
- \* Hiding Relaxed Memory Consistency with Compilers February 2008  
School of Computing, University of Utah, Salt Lake City, Utah, USA
- \* Virtual Memory Environments for Instruction Scratchpad Memory Management March 2007  
Dagstuhl Seminar 07101: Quantitative Aspects of Embedded Systems, Schloss Dagstuhl, Wadem, 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 November 2003  
Fall Conference, SIG on Programming Languages, The Korean Institute of Information Scientists and Engineers
- \* Advanced Compiler Technologies August 2003  
Embedded Systems Session, European Summer School on Embedded Systems, Mälardalen University, Sweden
- \* Performance Improvement of Processing-In-Memory Systems by Using Memory Threads November 2002  
Korea University, Seoul, Korea  
System LSI Division, Samsung Electronics, Korea October 2002
- \* An Optimizing Compiler for Relaxed Memory Consistency Models March 2001  
Department of Computer Science, State University of New York at Stony Brook, NY, USA  
Department of Computer Science, Boston University, MA, USA March 2001  
Department of Computer Science, University of Massachusetts at Amherst, MA, USA February 2001  
Department of Computer Science, Northwestern University, IL, USA February 2001
- \* Automatically Mapping Code on an Intelligent Memory Architecture February 2001  
Department of Electrical and Computer Engineering, Northwestern University, IL, USA
- \* Compilation Techniques for Explicitly Parallel Programs August 2000  
Dagstuhl Seminar 00341: High Performance Computing and Java, Schloss Dagstuhl, Wadem, Germany August 2000  
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

## STUDENTS

## Current Ph.D. Students

Jungho Park (박정호), Yong-Jun Lee (이용준), Hongjune Kim (김홍준), Gangwon Jo (조강원), Thanh Tuan Dao, and Wookeun Jung (정우근)

## Graduated Ph.D. Students

- \* Junghyun Kim (김정현), Senior Research Staff Member, Software Center, Samsung Electronics      February 2016  
Thesis: Techniques for Ease of OpenCL Programming
- \* Sangmin Seo (서상민), Assistant Computer Scientist, Argonne National Laboratory, USA      August 2013  
Thesis: Enhancing Performance Portability of OpenCL for Multicore CPUs
- \* Jungwon Kim (김정원), Computer Scientist, Oak Ridge National Laboratory, USA      August 2013  
Thesis: An OpenCL Framework for Heterogeneous Clusters
- \* Choonki Jang (장춘기), Senior Research Staff Member, Samsung Advanced Institute of Technology      August 2011  
Thesis: Optimization and Management Techniques for Local Memory Architectures
- \* Bernhard Egger, Associate Professor, Department of Computer Science and Engineering, SNU      February 2008  
Thesis: Dynamic Scratchpad Memory Management

## Current M.S. Students

Jaeho Shin (신재호), Jaehoon Jung (정재훈), Jiyoung Park (박지영), and Jungwook Kim (김정욱)

## Graduated M.S. Students

- \* Bojun Seo (서보준), LG Electronics      August 2016  
Thesis: Reducing Memory Usage by Sharing Code on V8 JavaScript Engine
- \* Jinyoung Joo (주진영), TmaxSoft      August 2014  
Thesis: Bi-directional Source-to-Source Translator between CUDA and OpenCL
- \* Seonmyeong Bak (박선명), Ph.D. student at UIUC, USA      August 2014  
Thesis: Lightweight Block-level Concurrent Wweeping for JavaScript Garbage Collection
- \* Jeongho Nah (나정호), TmaxSoft      February 2012  
Thesis: Implementation of a Register Allocator for a JavaScript JIT Compiler
- \* Joo Hwan Lee (이주환), Ph.D. student at Georgia Tech, USA      August 2011  
Thesis: "Reducing JavaScript Compilation Time by Caching Code in Flash Memory"
- \* Eunbyung Park (박은병), Ph.D student at UNC Chapel Hill, USA      February 2011  
Thesis: Fast and Space-Efficient Virtual Machine Checkpointing
- \* Honggyu Kim (김홍규), LG Electronics, Korea      February 2010  
Thesis: Adaptive Execution Techniques of Parallel Programs for SMT Multicore
- \* Jinho Pak (박진호), NCsoft, Korea      February 2010  
Thesis: The Design and Implementation of UI for Architecture Simulator

## STUDENTS

## Graduated M.S. Students (contd.)

- \* Junghyun Kim (김정현), Ph.D. student, SNU February 2009  
Thesis: The Design and Implementation of Parallelized Architecture Simulator for Embedded Systems
- \* Posung Chun (전보성), TmaxSoft February 2009  
Thesis: Coherent Distributed Shared Memory Interface for Cell BE Cluster
- \* Taejun Ha (하태준), TmaxSoft February 2008  
Thesis: An Automatic Memory Subsystem Parameter Detection Program
- \* Chihun Kim (김지훈), Nexon February 2008  
Thesis: A Dynamic Code Placement Technique for Scratchpad Memory Using Postpass Optimization
- \* Kwangsub Kim (김광섭), LG Electronics February 2008  
Thesis: Optimization Techniques for Cycle-Accurate Instruction Set Simulator
- \* Yoonsung Nam (남윤성), Samsung Electronics February 2007  
Thesis: Cycle-Accurate and Fast Simulation Techniques for ARM Processors
- \* Jongyoung Lee (이종영), Samsung Electronics August 2006  
Thesis: Reducing Execution Time of Memory Test Programs using SIMD Instructions and Caches in 64-bit Computing Environments
- \* Seokho Choi (최석호), SKY Teletech August 2005  
Thesis: An Intermediate Representation for Preserving Source Level Information and Optimization
- \* Kiwon Kwon (권기원), Qualcomm, Korea February 2005  
Thesis: SNACK-pop: A Postpass Optimizer for Embedded Systems
- \* Changhee Jung (정창희), Assistant Professor, Virginia Tech, USA February 2005  
Thesis: Helper Thread Prefetching for a Loosely-Coupled Multiprocessor System
- \* Xing Fang (at MSU), Software Development Engineer, Amazon, USA August 2002  
Thesis: Inserting Fences to Guarantee Sequential Consistency
- \* H. D. K. Moonesinghe (at MSU) August 2002  
Thesis: Adaptively Increasing Performance and Scalability of Automatically Parallelized Programs

## COURSES TAUGHT

### Graduate Courses at SNU

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

### Graduate Courses at Michigan State University

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

### Undergraduate Courses at SNU

- \* 010.133 Digital Computer Concept and Practice Spring 2010, 2011, 2012, 2013
- \* 010.143 Computer Principles Spring 2008
- \* 4190.101 Discrete Mathematics Spring 2003, 2004, 2005
- \* 4190.103 Programming Practice Summer 2008, Fall 2009, Spring 2017
- \* 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, Spring 2014
- \* 4190.311A Project 1 Fall 2002
- \* 4190.409 Compilers Spring 2003, 2004, 2005, 2006, 2007, 2008, 2011, 2012
- \* 4190.413A Project 2 Fall 2002
- \* 4190.414A Multicore Computing Spring 2013, 2014, 2015, Fall 2016

### Undergraduate Courses at Michigan State University

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

### Undergraduate Courses at University of Illinois at Urbana-Champaign

- \* CS 231 Computer Architecture I Fall 1999
- \* CS296 Honors Course in Computer Science Fall 1999

## PUBLICATIONS

## Book Chapters

- [1] Jaejin Lee, Gangwon Jo, Wookeun Jung, Hongjune Kim, Junghyun Kim, Yong-Jun Lee, and Jungho Park. SnuCL: A Unified OpenCL Framework for Heterogeneous Clusters, *Advances in GPU Research and Practice*, pp. 23 — 56, Morgan Kaufmann, September 2016.

## Refereed Conference and Workshop Papers

- [1] Junghyun Kim, Yong-Jun Lee, Jungho Park, and Jaejin Lee. Translating OpenMP Device Constructs to OpenCL Using Unnecessary Data Transfer Elimination, *SC '16: Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis*, Salt Lake City, Utah, USA, November 2016. (82/446, 18.4%)
- [2] Jungho Park, Wookeun Jung, Gangwon Jo, Ilkoo Lee, and Jaejin Lee. PIPSEA: A Practical IPsec Gateway on Embedded APUs, *CCS '16: Proceedings of the 23rd ACM Conference on Computer and Communications Security*, pp. 1255 — 1267, Vienna, Austria, October 2016, DOI: 10.1145/2976749.2978329. (137/831, 16.5%)
- [3] Junghyun Kim, Gangwon Jo, Jaehoon Jung, Jungwon Kim, and Jaejin Lee. A Distributed OpenCL Framework using Redundant Computation and Data Replication, *PLDI '16: Proceedings of the 37th Annual ACM SIGPLAN Conference on Programming Language Design and Implementation*, pp. 553 — 569, Santa Barbara, California, USA, June 2016, DOI: 10.1145/2908080.2908094. (48/304, 15.8%)
- [4] Junghyun Kim, Thanh Tuan Dao, Jaehoon Jung, Jinyoung Joo, and Jaejin Lee. Bridging OpenCL and CUDA: A Comparative Analysis and Translation, *SC '15: Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis*, Article No. 82, Austin, Texas, USA, November 2015, DOI: 10.1145/2807591.2807621. (79/358, 22.1%)
- [5] Wookeun Jung, Jongsoo Park, and Jaejin Lee. Versatile and scalable parallel histogram construction, *PACT '14: Proceedings of the 23rd ACM/IEEE/IFIP International Conference on Parallel Architectures and Compilation Techniques*, pp. 127 — 138, Edmonton, Alberta, Canada, August 2014, DOI: 10.1145/2628071.2628108. (37/144, 25.7%)
- [6] Hongjune Kim, Seonmyeong Bak, and Jaejin Lee. Lightweight and block-level concurrent sweeping for javascript garbage collection, *LCTES '14: Proceedings of the 2014 SIGPLAN/SIGBED Conference on Languages, Compilers and Tools for Embedded Systems*, pp. 155 — 164, Edinburgh, UK, June 2014, DOI: 10.1145/2597809.2597824. (16/51, 31.3%)
- [7] Gangwon Jo, Won Jong Jeon Wookeun Jung, Gordon Taft, and Jaejin Lee. OpenCL Framework for ARM Processors with NEON Support, *WPMVP '14: Proceedings of the 2014 Workshop on Programming Models for SIMD/Vector Processing*, pp. 33 — 40, February 2014, DOI: 10.1145/2568058.2568064.
- [8] Jeongho Nah, Jun Lee, Hongjune Kim, Jinseok Lee, Seok Joong Hwang, Donghoon Yoo, Jaejin Lee. An OpenCL Optimizing Compiler for Reconfigurable Processors, *FPT '13: Proceedings of 2013 International Conference on Field-Programmable Technology*, pp. 184 — 191, Kyoto, Japan, December 2013, DOI: 10.1109/FPT.2013.6718351.
- [9] Sangmin Seo, Jun Lee, Gangwon Jo, and Jaejin Lee. Automatic OpenCL Work-Group Size Selection for Multicore CPUs, *PACT '13: Proceedings of the 22nd ACM/IEEE/IFIP International Conference on Parallel Architectures and Compilation Techniques*, pp. 387 — 397, Edinburgh, Scotland, September 2013, DOI: 10.1109/PACT.2013.6618834. (36/208, 17.3%)
- [10] Choonki Jang, Jaejin Lee, Bernhard Egger, and Soojung Ryu. Automatic Code Overlay Generation and Partially Redundant Code Fetch Elimination, *Presented in HiPEAC 2013*, Berlin, Germany, January 2013. (Published in *ACM Transactions on Architecture and Code Optimization*, Vol. 9, No. 2, Article 10, June 2012)
- [11] Jungwon Kim, Sangmin Seo, Jun Lee, Jeongho Nah, Gangwon Jo, and Jaejin Lee. SnuCL: an OpenCL Framework for Heterogeneous CPU/GPU Clusters, *ICS '12: Proceedings of the 26th International Conference on Supercomputing*, pp. 341 — 352, San Servolo Island, Venice, Italy, June 2012, DOI: 10.1145/2304576.2304623. (36/161, 22.3%)



## PUBLICATIONS

## Refereed Conference and Workshop Papers (contd.)

- [12] Choonki Jang, Jun Lee, Sangmin Seo, and Jaejin Lee. An Automatic Code Overlaying Technique for Multicores with Explicitly-Managed Memory Hierarchies, *CGO '12: Proceedings of the 2012 International Symposium on Code Generation and Optimization*, pp. 219 — 229, San Jose, California, USA, March 2012, DOI: 10.1145/2259016.2259045. (26/90, 28.8%)
- [13] Sangmin Seo, Gangwon Jo, and Jaejin Lee. Performance Characterization of the NAS Parallel Benchmarks in OpenCL, *IISWC '11: Proceedings of the 2011 IEEE International Symposium on Workload Characterization*, pp. 137 — 148, Austin, Texas, USA, November 2011, DOI: 10.1109/IISWC.2011.6114174. (20/50, 40.0%)
- [14] Sangmin Seo, Junghyun Kim, and Jaejin Lee. SFMalloc: A Lock-Free and Mostly Synchronization-Free Dynamic Memory Allocator for Manycores, *PACT '11: Proceedings of the 20th ACM/IEEE/IFIP International Conference on Parallel Architectures and Compilation Techniques*, pp. 253 — 263, Galveston Island, Texas, USA, October 2011, DOI: 10.1109/PACT.2011.57. (36/221, 16.3%)
- [15] Jun Lee, Jungwon Kim, Junghyun Kim, Sangmin Seo, and Jaejin Lee. An OpenCL Framework for Homogeneous Manycores with no Hardware Cache Coherence, *PACT '11: Proceedings of the 20th ACM/IEEE/IFIP International Conference on Parallel Architectures and Compilation Techniques*, pp. 56 — 67, Galveston Island, Texas, USA, October 2011, DOI: 10.1109/PACT.2011.12. (36/221, 16.3%)
- [16] Jungwon Kim, Sangmin Seo, Jun Lee, Jeongho Nah, Gangwon Jo, and Jaejin Lee. OpenCL as a Programming Model for GPU Clusters, *LCPC '11: Proceedings of the 24th International Workshop on Languages and Compilers for Parallel Computing* (also appears in Springer-Verlag Lecture Notes in Computer Science, Vol. 7146, 2013), pp. 76 — 90, Fort Collins, Colorado, USA, September 2011, DOI: 10.1007/978-3-642-36036-7\_6. (19/52, 36.5%)
- [17] Junghyun Kim, Sangmin Seo, and Jaejin Lee. An Efficient Software Shared Virtual Memory for the Single-chip Cloud Computer, *APSys '11: Proceedings of the 2nd ACM SIGOPS Asia-Pacific Workshop on Systems*, Article No. 4, Shanghai, China, July 2011, DOI: 10.1145/2103799.2103804. (19/57, 33.3%)
- [18] Choonki Jang, Jungwon Kim, Jaejin Lee, Hee-Seok Kim, Dong-Hoon Yoo, Sukjin Kim, Hong-Seok Kim, and Soojung Ryu. An Instruction-Scheduling-Aware Data Partitioning Technique for Coarse-Grained Reconfigurable Architectures, *LCTES '11: Proceedings of the ACM SIGPLAN/SIGBED 2011 International Conference on Languages, Compilers, and Tools for Embedded Systems*, pp. 151 — 160, Chicago, Illinois, USA, April 2011, DOI: 10.1145/1967677.1967699. (17/51, 33.3%)
- [19] Eunbyung Park, Bernhard Egger, and Jaejin Lee. Fast and Space Efficient Virtual Machine Checkpointing, *VEE '11: Proceedings of the 2011 ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments*, pp. 75 — 85, Newport Beach, California, USA, March 2011, DOI: 10.1145/1952682.1952694. (20/68, 29.4%)
- [20] 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. 277 — 288, San Antonio, Texas, USA, February 2011, DOI: 10.1145/1941553.1941591. (26/165, 15.6%)
- [21] 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. DOI: 10.1145/1879021.1879029. (29/89, 32.6%)
- [22] 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. (46/266, 17.3%)
- [23] 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. (32/175, 18.3%)

## PUBLICATIONS

## Refereed Conference and Workshop Papers (contd.)

- [24] 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. (35/184, 19.0%)
- [25] 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. (30/159, 18.9%)
- [26] 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. (28/110, 25.4%)
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