Prof. Kwangkeun Yi

Email: kwang@ropas.snu.ac.kr
Homepage: kwangkeunyi.snu.ac.kr
Mobile: +82-10-3895-9374
Office: +82-2-880-1857

Work Address
Rm 428, Bldg 302
Dept. of Computer Science & Engineering
Seoul National University
1 Gwanak-ro Gwanak-gu
Seoul 08826, KOREA

Current Position

Professor, Department of Computer Science and Engineering
Seoul National University

Education

- 1993: Ph.D. (Computer Science) Univ. of Illinois at Urbana-Champaign
- 1987: B.S. (Computer Science & Statistics) Seoul National University

Experience

- 2017 – present: Vice Dean, Planning & Strategy, College of Engineering, Seoul National University
- 2007 – present: Full Professor, Seoul National University
- 2003 – 2007: Associate Professor, Seoul National University
- 2001 – 2003: Associate Professor, Korea Advanced Institute of Science & Technology
- 1995 – 2001: Assistant Professor, Korea Advanced Institute of Science & Technology
- 1993 – 1995: Member of Technical Staff(regular), Software Principles Research Department, Bell Labs., Murray Hill, New Jersey, U.S.A.

- 1/2017 – 2/2017: Visiting Professor, Computer Science Department, Stanford University (host: Prof. Alex Aiken)
- 11/2016 – 12/2016: Research Scientist, Facebook, London, UK (host: Dr. Peter O'Hearn)
- 7/2016 – 10/2016: Visiting Professor, Computer Science Department, École Normale Supérieure, Paris, France (host: Prof. Xavier Rival)
- 4/2012 – 6/2012: Visiting Professor, Laboratory for Computer Science & Artificial Intelligence, M.I.T., Cambridge, U.S.A. (host: Prof. Arvind and Prof. Martin Rinard)
- 4/2008 – 7/2008: Visiting Professor, Laboratory for Computer Science & Artificial Intelligence, M.I.T., Cambridge, U.S.A. (host: Prof. Martin Rinard)
- 1/2008 – 4/2008: Visiting Professor, Computer Science Department, Carnegie-Mellon University, Pittsburgh, U.S.A. (host: Prof. Edmund Clarke)
- 7/2002 – 8/2002: Visiting Professor, Computer Science Department, École Normale Supérieure, Paris, France (host: Prof. Patrick Cousot)
- 7/1998 – 8/1998: Visiting Research Consultant, Software Principles Research Department, Bell Labs., Murray Hill, New Jersey, U.S.A.

- 9/2008 – 3/2016: Director, ROSAEC Center (Research On Software Analysis for Error-free Computing), Engineering Research Center of Excellence, Korea Science & Engineering Foundation
- 9/1998 – 7/2003: Director, ROPAS Center (Research On Program Analysis System), National Creative Research Initiative Center, Korea Science & Engineering Foundation

Researches

semantics-based program analysis
programming language theory
static analysis
higher-order and typed programming language system
programming systems application of static analysis technology

Softwares

- Sparrow: an industrialized static analyzer for static detection of memory errors in C and C++ program sources. It shows superior performance edges against existing competitors in the market. (`http://www.spa-arrow.com`)
- Airac: a static analyzer for automatic verification of buffer overrun errors in C program sources (`http://ropas.snu.ac.kr/airac5`).
- nML Programming Language System: a dialect of ML (`http://ropas.snu.ac.kr/n`). Its compiler system has been used in SNU's and KAIST's programming language classes since Spring 2000. The Airac analyzer has been implemented in nML.
- SML Exception Analyzer: a static analyzer for detecting may-uncaught exceptions in Standard ML programs. This analyzer has been embedded in the SML/NJ 110 compiler system and released August 1998.
- System Z1, Z2, and Zoo: static program analyzer generator that builds semantic-based static program analyzers from very high-level specifications.

Talks

- Invited seminar, Stanford Univ, USA, 02/03/2017
- Plenary talk, The 15th Asian Logic Conference, Daejeon, 07/11/2017
- Invited seminar, UC Berkeley, USA, 10/26/2015
- Invited seminar, FireEye.com, Dresden, Germany, 7/22/2015
- Invited seminar, École Normale Supérieure, Paris, France, 2/19/2015
- Invited seminar, École Normale Supérieure, Paris, France, 2/19/2015
- Invited talk, The 8th International Symposium on Theoretical Aspects in Software Engineering(TASE)'14, Changsha, China, 9/02/2014
- Invited seminar, École Normale Supérieure, Paris, France, 6/27/2014
- Invited seminar, MIT CSAIL, USA, 4/23/2012
- Invited seminar, National Institute of Informatics, Tokyo, Japan, 1/10/2012
- Invited seminar, MIT CSAIL, USA, 6/14/2011
- Invited seminar, École Normale Supérieure, Paris, France, 6/09/2011
- Invited seminar, Oxford Univ., UK, 6/06/2011
- Invited seminar, UC Berkeley, USA, 5/31/2011
- Invited seminar, Tsinghua University, Beijing, China, 12/02/2010
- Invited seminar, Hongkong University of Science and Technology, Hongkong, 11/13/2010
- Invited seminar, EADS(European Aeronautic Defence and Space Company), Paris, France, 6/25/2009
- Invited talk, International workshop on Program Understanding, Novosibirsk, Russia, 6/15/2009
- Invited seminar, SUN Microsystems, Burlington, MA, USA, 6/10/2008
- Invited seminar, MIT Lincoln Laboratory, USA, 6/02/2008
- Invited seminar, Laboratory for Computer Science and Artificial Intelligence, MIT, USA, 5/9/2008
- Invited seminar, Computer Science Department, Carnegie Mellon University, USA, 2/15/2008

- Invited talk, 30 Years of Abstract Interpretation, San Francisco, 1/09/2008,
- Invited seminar, School of Computing, National University of Singapore, 10/25/2007
- Invited seminar, National Institute of Informatics, Tokyo, Japan, 7/17/2007
- Invited seminar, Dagstuhl Seminar 06281 on "The Challenge of Software Verification", 7/8/2006 - 7/15/2006, Germany
- Invited seminar, Dagstuhl Seminar 03101 on "Resoning about Shape", 3/2/2003 - 3/7/2003, Germany
- Invited seminar, CRISTAL group, Institut National de Recherche en Informatique et en Automatique(INRIA), France, 7/4/2002
- Visiting Professor, Computer Science Departemnt, École Normale Supérieure, Paris, 7/1/2002 - 8/31/2002
- Invited seminar, Computer Science Departemnt, École Normale Supérieure, Paris, 7/12/2001 - 7/14/2001 "System Zoo: towards a realistic program analyzer generator"
- Invited seminar, Dept. of Information Science, Univ. of Tokyo, 3/17/2000 - 3/20/2000
- Invited seminar, "Static Analysis for Code Compaction and Safety Assurance ", Research Institute of Mathematical Sciences, Kyoto Univ., 3/15/1999 - 3/16/1999
- Invited speaker, "Static Value Slicing", The 1st Japanese Programming and Programming Languages Workshop, 3/17/1999 - 3/19/1999
- Invited seminar, New Jersey Programming Languages and Systems Seminar Series, Bell Laboratories, Murray Hill, New Jersey, 7/20/1997 - 7/29/1997

Program Committee Member

- PLDI'17, 38th ACM Conference on Programming Language Design and Implementation
- SAS'16, 23rd International Static Analysis Symposium
- PLOOC'13, 1st Workshop on Programming Langauges Technology for Massive Open Online Courses
- POPL'13, ACM Symposium on Principles of Programming Langauges
- FOSSACS'13, International Conference on Foundations of Softare Science and Computation Structures
- SAS'12, 19th International Static Analysis Symposium
- PADL'12, 14th International Symposium on Practical Aspects of Declarative Langauges
- PEPM'12, ACM Workshop on Partial Evaluation and Program Manipulation
- POPL'12, External Review Committee, ACM Symposium on Principles of Programming Langauges
- CPP'11, First International Conference on Certified Programs and Proofs
- ESOP'11, The European Symposium on Programming 2010
- SSV'10, 5th International Workshop on Systems Software Verification
- GPCE'10, 9th International Conference on Generative Programming and Component Engineering
- OOPSLA'10, ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications
- CAV'10, The 22nd International Conference on Computer Aided Verification
- VMCAI'10, The 11th International Conference on Verification, Model Checking, and Abstract Interpretation 2010

- APLAS'09(**general chair**), The 7th Asian Symposium on Programming Languages and Systems 2009
- SAS'09, The 16th International Static Analysis Symposium
- ESOP'09, The European Symposium on Programming 2009
- SAS'07, The 14th International Static Analysis Symposium
- AWCVS'06, The 1st Asian Working Conference on Verified Software
- SAS'06(**program chair**), The 13th International Static Analysis Symposium
- CC'06, The 15th International Conference on Compiler Construction
- ML'05, The 2005 ACM SIGPLAN Workshop on ML
- APLAS'05(**program chair**), The 3rd Asian Symposium on Programming Languages and Systems 2005
- ESOP'04, The European Symposium on Programming 2004
- FLOPS'02, The 6th International Symposium on Functional and Logic Programming 2002
- SAS'01, The 8th International Static Analysis Symposium 2001
- ICFP'01, ACM SIGPLAN International Conference on Functional Programming 2001
- APLAS'03,'04, Asian Symposium on Programming Languages and Systems
- ASIAN'98, Asian Computer Science Conference 1998

Publications [**International Journals**]

- "Adapting Static Analysis via Learning with Bayesian Optimization", Kihong Heo and Hakjoo Oh and Hongseok Yang and Kwangkeun Yi, **ACM Transactions on Programming Languages and Systems**, 2018 (to appear)
- "Sound Non-Statistical Clustering of Static Analysis Alarms", Woosuk Lee and Wonchan Lee and Dongok Kang and Kihong Heo and Hakjoo Oh and Kwangkeun Yi, **ACM Transactions on Programming Languages and Sysstems**, Vol.39, Issue 4, Article No.16, Sept. 2017
- "Selective Conjunction of Context-sensitivity and Octagon Domain toward Scalable and Precise Global Static Analysis", Kihong Heo and Hakjoo Oh and Kwangkeun Yi, **Software Practice & Experience**, Vol.47, No.11, 2017
- "Selective X-Sensitive Analysis Guided By Impact Pre-Analysis", Hakjoo Oh and Wonchan Lee and Kihong Heo and Hongseok Yang and Kwangkeun Yi, **ACM Transactions on Programming Languages and Systems**, Vol.38, Issue 2, Article No.6, January 2016
- "Automatically Inferring Loop Invariants via Algorithmic Learning", Yungbum Jung and Soonho Kong and Cristina David and Bow-Yaw Wang and Kwangkeun Yi, **Mathematical Structures in Computer Science**, Vol. 25, Issue 04, May 2015
- "Global Sparse Analysis Framework", Hakjoo Oh and Kihong Heo and Wonchan Lee and Woosuk Lee and Daejun Park and Jeehoon Kang and Kwangkeun Yi, **ACM Transactions on Programming Languages and Systems**, Vol.36, Issue 3, 2014
- "Access-based Abstract Memory Localization in Static Analysis", Hakjoo Oh and Kwangkeun Yi, **Science of Computer Programming**, Vol. 78, Issue 9, 2013
- "Predicate Generation for Learning-based Quantifier-free Loop Invariant", Wonchan Lee and Yungbum Jung and Bow-yaw Wang and Kwangkeun Yi, **Logical Methods in Computer Science**, Vol.8(3:25), pp.1-21, 2012
- "LR Error Repair Using the A* Algorithm", Ik-Soon Kim and Kwangkeun Yi, **Acta Informatica**, Vol. 47, Issue 3, 2010

- "Goal-Directed Weakening of Abstract Interpretation Results", Hongseok Yang and Sunae Seo and Kwangkeun Yi and Taisook Han, **ACM Transactions on Programming Languages and Systems**, Vol.29, No.6, Article No.39, October, 2007
- "Proofs About A Folklore Let-Polymorphic Type Inference Algorithm", Oukseh Lee and Kwangkeun Yi, **ACM Transactions on Programming Languages and Systems**, Vol.20, No.4, pp. 707-723, July 1998
- "A Cost-effective Esimation of Uncaught Exceptions in SML Programs", Kwangkeun Yi and Sukyoung Ryu, **Theoretical Computer Science**, Vol.277, No.1-2, pp.185-217, 2002
- "Proof-Directed Debugging Revisited for a First-Order Version" Education Pearl, Kwangkeun Yi, **Journal of Functional Programming**, Vol.16, No.06, pp.663-670, 2006
- "Static Insertion of Safe and Effective Memory Reuse Commands into ML-like Programs", Oukseh Lee and Hongseok Yang and Kwangkeun Yi, **Science of Computer Programming**, Vol.58, No.1-2, pp.141-178, 2005
- "An Abstract Interpretation for Estimating Uncaught Exceptions in Standard ML Programs", Kwangkeun Yi, **Science of Computer Programming**, Vol.31, No.1, 147-173, 1998
- "Static Extensivity Analysis for Lambda-Definable Functions over Lattices", Hyunjun Eo and Kwangkeun Yi and Kwangmoo Choe, **New Generation Computing**, Vol. 24, No.1, pp.53-78, 2006
- "Proofs of a Set of Hybrid Let-Polymorphic Type Inference Algorithms", Hyunjun Eo and Oukseh Lee and Kwangkeun Yi, **New Generation Computing**, Vol.22, No.1, pp.1-36, 2004
- "An Empirical Study on Classification Methods for Alarms from a Bug-Finding Static C Analyzer", Jaewhang Kim and Hosik Choi and Kwangkeun Yi and Yongdae Kim, **Information Processing Letters**, Vol.102, No.2-3, pp.118-123, 2007
- "A Proof Method for the Correctness of Modularized 0CFA", Oukseh Lee and Kwangkeun Yi, **Information Processing Letters**, 81, pp.179-185, 2002
- "Engaging Students with Theory through ACM Collegiate Programming Contests", Nikolay V. Shilov and Kwangkeun Yi, **Communications of the ACM**, Vol.45, No.9, pp.98-101, September 2002
- "Uncaught Exception Analysis for Java", Jangwoo Jo, Byeong-Mo Chang, Kwangkeun Yi, Kwang-Moo Choe, **Journal of Systems and Software**, Vol.72, No.1, pp.59-69, 2004
- "Puzzles for Learning Model Checking, Model Checking for Programming Puzzles, Puzzles for Testing Model Checkers", Nikolay Shilov and Kwangkeun Yi, **Electronic Notes in Theoretical Computer Science**, Vol 43, 2001
- "Unified Interprocedural Parallelism Detection", Jay Hoeflinger and Yunheung Paek and Kwangkeun Yi, **International Journal of Parallel Programming**, Vol.29, No.2, pp.185-215, 2001 (invited paper)
- "Efficient Computation of Fixpoints that Arise in Complex Program Analysis", Li-ling Chen, Luddy Harrison and Kwangkeun Yi, **Journal of Programming Languages**, Vol.3, No.1, pp.31-68, 1995

[**International Conferences**]

- "Crellvm: Verified Credible Compilation for LLVM", Jeehoon Kang and Yoonseung Kim and Youngju Song and Juneyoung Lee and Sanghoon Park and Mark DOngyeon Shin and Yonghyun Kim and Sungkeun Cho and Joonwon Choi and Chung-Kil Hur and Kwangkeun Yi, **PLDI 2018**: ACM Conference on Programming Language Design and Implementation, 2018

- "Machine-Learning-Guided Selectively Unsound Static Analysis", Kihong Heo and Hakjoo Oh and Kwangkeun Yi, **ICSE 2017**: The 39th International Conference on Software Engineering
- "Learning a Strategy for Adapting a Program Analysis Via Bayesian Optimization", Hakjoo Oh and Hongseok Yang and Kwangkeun Yi, **OOPSLA 2015**: International Conference on Object-Oriented Programming Systems, Languages and Applications, 2015
- "Static Analysis with Set-closure in Secrecy", Wooksuk Lee and Hyunsuk Hong and Junghee Cheon and Kwangkeun Yi, *Lecture Notes in Computer Science*, Vol.9291, **SAS 2015**: The 22nd International Static Analysis Symposium, 2015
- "Selective Context-Sensitivity Guided by Impact Pre-Analysis", Hakjoo Oh and Wonchan Lee and Kihong Heo and Hongseok Yang and Kwangkeun Yi, **PLDI 2014**: *The 35th ACM Conference on Programming Language Design and Implementation*, June 2014.
- "Design and Implementation of Sparse Global Analyses for C-like Languages", Hakjoo Oh and Kihong Heo and Wonchan Lee and Woosuk Lee and Kwangkeun Yi, **PLDI 2012**: *The 33rd ACM Conference on Programming Language Design and Implementation*, June 2012.
- "The Implicit Calculus: A New Foundation for Generic Programming", Bruno Oliveira and Tom Schrijvers and Wontae Choi and Wonchan Lee and Kwangkeun Yi, **PLDI 2012**: *The 33rd ACM Conference on Programming Language Design and Implementation*, June 2012.
- "Static Analysis for Multi-Staged Programs via Unstaging Translation", Wontae Choi and Baris Aktemur and Kwangkeun Yi and Makoto Tatsuda, **POPL 2011**: *The 38th Annual ACM Sumposium on Principles of Programming languages*, Januaray 2011.
- "A Polymorphic Modal Type System for Lisp-like Multi-Staged Languages", Ik-Soon Kim and Kwangkeun Yi and Cristiano Calcagno, **POPL 2006**:*The 33rd Annual ACM Symposium on Principles of Programming Languages*, pp.257-269, January 2006.
- "Automatic Generation and Management of Interprocedural Program Analyses", Kwangkeun Yi and Luddy Harrison, **POPL 1993**:*The Twentieth Annual ACM Symposium on Principles of Programming Languages*, pp.246-259, January 1993.
- "MeCC: Memory Comparison-Based Clone Detector", Heejung Kim and Yungbum Jung and Sunghun Kim and Kwangkeun Yi, **ICSE 2011**: *The 33rd International Conference on Software Engineering*, May 2011.
- "Termination Analysis with Algorithmic Learning", Wonchan Lee and Bow-Yaw Wang and Kwangkeun Yi, **CAV 2012**:*The International Conference on Computer Aided Verification*, July 2012.
- "Predicate Generation for Learning-Based Quantifer-free Loop Invariant Inference", Yungbum Jung and Wonchan Lee and Bow-Yaw Wang and Kwangkeun Yi, **TACAS 2011**: *The 17th International Conference on Tools and Algorithms for the Construction and Analysis of Systems*, March 2011.
- "GMeta: A Generic Formal Metatheory Framework for First-Order Representations" Gyesik Lee and Bruno Oliveira and Sungkeun Cho and Kwangkeun Yi, **ESOP 2012**: *The 22nd European Symposium on Programming*
- "Automatic Verification of Pointer Programs Using Grammar-Based Shape Analysis", Oukseh Lee and Hongseok Yang and Kwangkeun Yi, *Lecture Notes in Computer Science*, Vol.3444, pp.124-140, **ESOP 2005**: The European Symposium on Programming, Edinburgh, April 2-10, 2005
- "A Progress Bar for Static Analyzers", Wooksuk Lee and Hakjoo Oh and Kwangkeun Yi, *Lecture Notes in Computer Science*, Vol.8723, **SAS 2014**: The 22st International Static Analysis Symposium, Munich, September 11-13, 2014

- "Taming False Alarms from a Domain-Unaware C Analyzer by a Bayesian Statistical Post Analysis", Yungbum Jung and Jaehwang Kim and Jaeho Shin and Kwangkeun Yi, *Lecture Notes in Computer Science*, Vol.3672, pp.203-217, **SAS 2005**: The 12th International Static Analysis Symposium, London, September 7-9, 2005
- "Inserting Safe Memory Reuse Commands into ML-like Programs", Oukseh Lee, Hongseok Yang, Kwangkeun Yi *Lecture Notes in Computer Science*, Vol.2694, pp.171-188, **SAS 2003**: Tenth Annual International Static Analysis Symposium, San Diego, June 11-13, 2003
- "Towards A Cost-Effective Estimation of Uncaught Exceptions in SML Programs", Kwangkeun Yi and Sukyoung Ryu, *Lecture Notes in Computer Science*, Vol. 1302, pp.98-113, **SAS 1997**: The 4th International Static Analysis Symposium, Paris, Sept. 1997
- "Compile-time Detection of Uncaught Exceptions in Standard ML Programs", Kwangkeun Yi, *Lecture Notes in Computer Science*, Vol. 864, pp.238-254, **SAS 1994**: The 1st International Static Analysis Symposium, Namur, Sept. 1994
- "Sound Non-Statistical Clustering of Static Analysis Alarms", Woosuk Lee and Wonchan Lee and Kwangkeun Yi, **VMCAI 2012**: *The 13th International Conference on Verification, Model Checking, and Abstract Interpretation*
- "Access Analysis-Based Tight Localization of Abstract Memories", Hakjoo Oh and Lucas Brutschy and Kwangkeun Yi, **VMCAI 2011**:*The 12th International Conference on Verification, Model Checking, and Abstract Interpretation*, January 2011.
- "Deriving Invariants by Algorithmic Learning, Decision Procedures, and Predicate Abstraction", Yungbum Jung and Soonho Kong and Bow-Yaw Wang and Kwangkeun Yi, **VMCAI 2010**:*The 11th International Conference on Verification, Model Checking, and Abstract Interpretation*, January 2010.
- "Static Monotonicity Analysis for Lambda-definable Functions over Lattices", Andrzej Murawski and Kwangkeun Yi, *Lecture Notes in Computer Science*, Vol.2294, pp.139-153, **VMCAI 2002**: Third International Workshop on Verification, Model Checking and Abstract Interpretation, Venice, January 21-22, 2002
- "A Practical Memory Leak Detector Based on Parameterized Procedural Summaries", Youngbum Jung and Kwangkeun Yi, **ISMM 2008**: *ACM SIGPLAN 2008 International Symposium on Memory Management*, June 2008.
- "Experiments on the Effectiveness of an Automatic Insertion of Safe Memory Reuses into ML-like Programs", Oukseh Lee and Kwangkeun Yi, **ISMM 2004**: The 2004 ACM International Symposium on Memory Management, Vancouver, October 24-25, 2004 (also at SPACE 2004, the Second ACM/SIGPLAN Workshop on Semantics, Program Analysis, and Computing Environments for Memory Management, Venice, January 12, 2004)
- "Access-Based Localization with Bypassing", Hakjoo Oh and Kwangkeun Yi, **APLAS 2011**: *The 9th Asian Symposium on Programming Langauges and Systems*
- "Type and Effect System for Multi-Staged Exceptions" Hyunjun Eo and Ik-Soon Kim and Kwangkeun Yi, *Lecture Notes in Computer Science*, Vol.4279, pp.61-78, **APLAS 2006**: The 4th Asian Symposium on Programming Languages and Systems, November 8-10, 2006
- "Automatic Construction of Hoare Proofs from Abstract Interpretation Results", Sunae Seo and Hongseok Yang and Kwangkeun Yi, *Lecture Notes in Computer Science*, Vol.2895, pp.230-245, **APLAS 2003**: The First Asian Symposium on Programming Languages and Systems, Beijing, November 27-29, 2003
- "Proving Syntactic Properties of Exceptions in an Ordered Logical Framework", Jeff Polakow and Kwangkeun Yi, *Lecture Notes in Computer Science*, Vol.2024, pp. 61-77, **FLOPS 2001**: Proceedings of the 5th International Symposium on Functional and Logic Programming, March, 2001

- "Soundness by Static Analysis and False-alarm Removal by Statistical Analysis: Our Airac Experience", Yungbum Jung and Jaehwang Kim and Jaeho Shin and Kwangkeun Yi, **Bugs 2005**: Workshop on the Evaluation of Software Defect Detection Tools, Chicago, June 12, 2005
- "Assessing the Overhead of ML Exceptions by Selective CPS Transformation", Jung-taek Kim, Kwangkeun Yi, Olivier Danvy, **ML 1998**: *The 1998 ACM SIGPLAN Workshop on ML*, pp.103-114, Baltimore, Sept., 1998
- "Exception Analysis for Multithreaded Java Programs", Sukyoung Ryu and Kwangkeun Yi, **APAQS 2001**: The Second Asia-Pacific Conference on Quality Software, Hongkong, pp.23-32, December 2001
- "Interconnecting Between CPS Terms and Non-CPS Terms", **CW 2001**: *The Proceedings of the Third ACM SIGPLAN Workshop on Continuations*, Jung-taek Kim and Kwangkeun Yi, January, 2001
- "Interprocedural Exception Analysis for Java", Byeong-Mo Chang and Jangwoo Jo and Kwangkeun Yi and Kwang-Moo Choe, *The Proceedings of the 16th ACM Symposium on Applied Computing*, March, 2001
- "Constraint-based Analysis for Java", Byeong-Mo Chang and Kwangkeun Yi and Jang-woo Jo, *SSGRR Conference on Computers and E-Business*, L'Aquila, Italy, August, 2000 (invited presentation)
- "Escape Analysis for Stack Allocation in Java", Eunsun Cho and Kwangkeun Yi, *ECOOP'00 Workshop on Formal Techniques for Java Programs*, June, 2000
- "Exception Analysis for Java", Kwangkeun Yi and Byeong-Mo Chang, *Lecture Notes in Computer Science*, Vol.1743, pp.111-112 *ECOOP'99 Workshop on Formal Techniques for Java Programs*, June, 1999
- "SUIF Program Analysis Using System Z2", Seong-Hoon Kim, Kwangkeun Yi, Hyun-jun Eo, Kwang-Moo Choe, *Proceedings of The Second SUIF Compiler Workshop*, Aug., 1997
- "Estimating Uncaught Exceptions in Standard ML Programs from Type-based Equations", Kwangkeun Yi and Sukyoung Ryu and Ki-Hyun Pyun, *Proceedings of the 20th Annual International Computer Software and Applications Conference*, pp. 455-460, Seoul, August 1996
- *Automatic Generation and Management of Program Analyses*, Kwangkeun Yi, Ph.D. Thesis, Report UIUCDCS-R-93-1828, Univ. of Illinois at Urbana-Champaign, August 1993.
- "On-the-fly Circuits to Measure the Average Working Set Size" Kwangkeun Yi and Luddy Harrison, *Proceedings of the IEEE International Conference on Computer Design: VLSI in Computers and Processors*, Cambridge, September 1990.

[**Books**]

- *컴퓨터과학이 여는 세계(Computational Civilization)*, Kwangkeun Yi, Insight, 2015
- (chapter) "How to find a coin: propositional program logics made easy", Nikolay Shilov and Kwangkeun Yi, *Current Trends in Theoretical Computer Science, Vol.2: Formal Models and Semantics*, pp.181-214, April 2004, World Scientific, Edited by G. Paun, G. Rozenberg, and A. Salomaa

Teaching Classes

- SNU 4541.664A: Program Analysis (graduate)
- SNU 4541.780: Topics in Programming Language (graduate)
- SNU 4190.310: Programming Languages (undergraduate)

- SNU 4190.210: Principles of Programming (undergraduate)
- SNU 400.02: Engineering Math II: Logic in Computing (undergraduate)
- SNU 010.142: Basics in Computing (undergraduate)
- SNU 046.016: Computational Civilization (undergraduate)

Hosting Visiting Ph.D. Students & Post-docs

- Ludovic Patey, 3/2011 - 8/2011, 10/2011-2/2012, Ph.D. student, École Normale Supérieure, Paris, France
- Cristian Gherghina, 6/2011 - 9/2011, Ph.D. student, National Univ. of Singapore
- Saransh Srivastava, 5/2011 - 7/2011, undergraduate, Indian Institute of Technology, Kanpur, India
- Ning Chen, 6/2010 - 8/2010, Ph.D. student, Computer Science, Hongkong University of Science and Technology, China
- Bow-Yaw Wang, 6/2010 - 8/2010, Ph.D., Institute of Information Science, Academia Sinica, Taiwan
- Ben Lickly, 5/2010 - 8/2010, Ph.D. student, EECS, UC Berkeley
- Cristina David, 10/2009 - 12/2009, Ph.D. student, Computer Science, National Univ. of Singapore
- Lucas Brutschy, 9/2009 - 3/2010, M.S. student, Computer Science, Aachen University, Germany
- Will Klieber, 5/2009 - 8/2009, Ph.D. student, Computer Science, Carnegie-Mellon University
- Pascal Cuoq, 12/2002 - 12/2003, Ph.D., INRIA, France
- Andrzej Murawski, 7/6/2001 - 8/5/2001, Ph.D. student, Oxford Univ.
- Jeff Sarnat, 6/4/2001 - 8/19/2001, senior undergraduate, Carnegie-Mellon University
- Jeff Polakow, 6/20/2000 - 8/20/2000, Ph.D. student, Carnegie-Mellon University
- Fermin Reig, 7/21/2000 - 10/20/2000, Ph.D. student, Univ. of Glasgow
- Charles Hymans, 8/1/1999 - 1/30/2000, Ph.D. student, École Normale Supérieure

Honors

- 9/2008 – 3/2016: Directorship, ROSAEC Center (Research On Software Analysis for Error-free Computing), Engineering Research Center of Excellence, Korea Science & Engineering Foundation
- 6/2007: 17th Annual Distinguished Scientific and Technological Paper Award, The Korea Federation of Science and Technology Societies
- 9/1998 – 7/2003: Directorship, Center for Research On Program Analysis System, National Creative Research Initiative Grant Program, Korea Ministry of Science and Technology
- 9/2001: Kaheon Academic Excellence Award, Korea Information Science Society
- 1984 – 1986: Undergraduate Fellow, Korea Foundation for Advanced Studies
- 1983: 1st-ranked in entrance exam, Division of Mathematics, Computer Science, and Statistics, College of Natural Science, Seoul National University