
Prof. Kwangkeun Yi

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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

- 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, 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 “Reasoning 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 Department, École Normale Supérieure, Paris, 7/1/2002 - 8/31/2002
- Invited seminar, Computer Science Department, 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 Languages Technology for Massive Open Online Courses
- POPL’13, ACM Symposium on Principles of Programming Languages
- FOSSACS’13, International Conference on Foundations of Software Science and Computation Structures
- SAS’12, 19th International Static Analysis Symposium
- PADL’12, 14th International Symposium on Practical Aspects of Declarative Languages
- PEPM’12, ACM Workshop on Partial Evaluation and Program Manipulation
- POPL’12, External Review Committee, ACM Symposium on Principles of Programming Languages
- 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]

- “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 Estimation 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 OCFA”, 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 Hoefflinger 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]

- “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 Wooksuk 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 Symposium on Principles of Programming Languages*, January 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 Quantifier-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”, Wooksook 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 Languages 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”, Sukeyoung 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 Jangwoo 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