SHIN HONG

Ph. D in Computer Science
Associate Professor
School of Computer Science & Electrical Engineering
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Experience

Mar 2022—present	Associate professor, School of Computer Science & Electrical Engineering (CSEE), Handong Global University (HGU), South Korea
Mar 2016—Feb 2022	Assistant professor, School of Computer Science & Electrical Engineering (CSEE), Handong Global University (HGU), South Korea
Aug 2015—Feb 2016	Postdoctoral researcher, School of Computing, KAIST (director: Prof. Moonzoo Kim)
Feb 2010—Feb 2011	Researcher, Computer Science Department, KAIST

Education

Feb 2011—Aug 2015 Ph.D in Computer Science, KAIST (advisor: Prof. Moonzoo Kim)
- Dissertation: Effective and Efficient Test Generation for Multithreaded Programs Using Concurrency Coverage Metrics

Mar 2007—Jan 2010 M.S in Computer Science, KAIST (advisor: Prof. Moonzoo Kim)
- Thesis: Concurrency Bug Detection through Improved Bug Pattern Matching Using Semantic Information

Mar 2003—Feb 2007 B.S in Computer Science, KAIST

Publications

- **International journal articles (referred)**

[1] Y. Kim and **S. Hong**, Learning-based Mutant Reduction using Fine-grained Mutation Operators, Software Testing, Verification and Reliability (STVR), accepted (published online).

[2] J. Kim, J. Jeon, **S. Hong**, S. Yoo, Predictive Mutation Analysis via Natural Language Channel in Source Code, ACM Transactions on Software Engineering and Methodology (TOSEM), 31(4), Oct 2022

[3] Y. Kim and **S. Hong**, DeMiner: Test Generation for High Test Coverage through Mutant Exploration, Software Testing, Verification and Reliability (STVR), Volume 31, Issue 1-2, January-March, 2021

[4] **S. Hong**, T. Kwak, B. Lee, Y. Jeon, B. Ko, Y. Kim, M. Kim, MUSEUM: Debugging Real-World Multilingual Programs Using Mutation Analysis, Information and Software Technology (IST), 82, pp. 80—95, Feb 2017

[5] **S. Hong**, M. Staats, J. Ahn, M. Kim, G. Rothermel, Are Concurrency Coverage Metrics Effective for Testing: A Comprehensive Empirical Investigation, Software Testing, Verification and Reliability (STVR), 25(4), pp.334-370, Jun 2015

[6] **S. Hong**, M. Kim, A Survey of Race Bug Detection Techniques for Multithreaded Programmes, Software Testing, Verification and Reliability (STVR), 25(3), pp.191—217, May 2015

[7] **S. Hong**, M. Kim, Effective Pattern-driven Concurrency Bug Detection for Operating Systems, Journal of Systems and Software (JSS), 86(2), pp. 377—388, Feb 2013

- **International conference papers (referred)**

[8] J. Kim and **S. Hong**, Inferring Fine-grained Traceability Links between Javadoc Comment and JUnit Test Code, the 38th IEEE International Conference on Software Maintenance and Evolution (ICSME), New Ideas and Emerging Results Track (NIER), to be presented in Oct 2022.

[9] J. Yoon, S. Chung, K. Shin, J. Kim, **S. Hong**, S. Yoo, Repairing Fragile GUI Test Cases Using Word and Layout Embedding, IEEE International Conference on Software Testing, Verification and Validation (ICST), Apr 2022

[10] H. Yoo, J. Hong, B. Lucas, D. W. Hwang, **S. Hong**, Improving Configurability of Unit-level Continuous Fuzzing: An Industrial Case Study with SAP HANA, the 36th IEEE/ACM International Conference on Automated Software Engineering (ASE), Industry Showcase, 2021, Nov 2021

[11] R. S. Herlim, **S. Hong**, Y. Kim, M. Kim, Empirical Study of Effectiveness of EvoSuite on the SBST 2020 Tool Competition Benchmark, the 13th Symposium on Search-Based Software Engineering (SSBSE), Replications and Negative Results (RENE), 2021, Oct 2021

[12] J. Jeon and **S. Hong**, Threats to Validity in Evaluating Mutation-based Fault Localization, International Conference on Software Engineering (ICSE), New Ideas and Emerging Results (NIER), Jul 6-11, 2020 (acceptance ratio: 30%)

[13] Y. Kim, **S. Hong**, M. Kim, Target-Driven Compositional Concolic Testing with Function Summary Refinement for Effective Bug Detection, ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), Nov 26-30, 2019

[14] S. Lee, **S. Hong**, J. Yi, T. Kim, C. Kim, S. Yoo, Classifying False Positive Static Checker Alarms in Continuous Integration using Convolutional Neural Networks, International Conference on Software Testing, Verification and Validation (ICST), Industry Track, Apr 22-27, 2019

[15] Y. Kim, **S. Hong**, B. Ko, M. Kim, Invasive Software Testing: Mutating Target Programs to Achieve High Test Coverage, International Conference on Software Testing, Verification and Validation (ICST), Apr 9-11, 2018 (acceptance ratio: 25%, **Distinguished paper awarded)**

[16] **S. Hong**, B. Lee, T. Kwak, Y. Jeon, B. Ko, Y. Kim, M. Kim, Mutation Based Fault Localization for Real-World Multilingual Programs, 30th IEEE/ACM International Conference on Automated Software Engineering (ASE), Nov 9-13, 2015 (acceptance ratio: 19%)

[17] Y. Park, **S. Hong**, M. Kim, D. Lee, and J. Cho, Systematic Testing of Reactive Software with Non-deterministic Events: A Case Study on LG Electric Oven, 37th International Conference on Software Engineering (ICSE), Software Engineering in Practice (SEIP), May 2015 (acceptance ratio: 22.5%)

[18] **S. Hong**, Y. Park, M. Kim, Detecting Concurrency Errors in Client-side JavaScript Web Applications, 7th IEEE International Conference on Software Testing, Verification and Validation (ICST), Mar 31-Apr 4, 2014 (acceptance ratio: 28%)

[19] **S. Hong**, M. Staats, J. Ahn, M. Kim, G. Rothermel, Impact of Concurrent Coverage Metrics on Testing Effectiveness, 6th IEEE International Conference on Software Testing, Verification and Validation (ICST), Mar 13-22, 2013 (acceptance ratio: 25%)

[20] M. Staats, **S. Hong**, M. Kim, and G. Rothermel, Understanding User Understanding: Determining Correctness of Generated Program Invariants, International Symposium on Software Testing and Analysis (ISSTA), Jul 15-20, 2012 (acceptance ratio: 28.7%)

[21] **S. Hong**, J. Ahn, S. Park, M. Kim, and M. J. Harrold, Testing Concurrent Programs to Achieve High Synchronization Coverage, International Symposium on Software Testing and Analysis (ISSTA), Jul 15-20, 2012 (acceptance ratio: 28.7%)

[22] M. Kim, **S. Hong**. C. Hong, T. Kim, Model-based Kernel Testing for Concurrency Bugs through Counter Example Replay, Model-based Testing (ENTCS volume 253, issue 2), York, UK, Mar 2009

- **Domestic journal articles (referred, written in Korean)**

[23] H. Choe and **S. Hong**, Bounded Search Strategies of Concolic Testing for Effective and Efficient Structural Coverage Achievement, Journal of KIISE, 48(2), pp. 201-210, Feb 2021

[24] J. Jeon and **S. Hong**, Improving Mutation-Based Fault Localization for Better Locating Omission Faults Using Coverage Change Information, Journal of KIISE, 47 (9), pp. 863-872, Sep 2020

[25] H. Leem, H. Choe, H. Kim, **S. Hong**, CRESTIVE-DX: Design and Implementation of Distributed Concolic Testing Tool for Embedded Software, KIPS Transactions on Software and Data Engineering (KTSDE), 9 (8), pp. 229-234, Aug 2020

[26] J. Lee, H. Choe, **S. Hong**, Systematic and Comprehensive Comparisons of the MOIS Security Vulnerability Inspection Criteria and Open-Source Security Bug Detectors for Java Web Applications, Journal of Software Engineering Society, 28(1), 2019

[27] H. Choe and **S. Hong**, Categories and Patterns of Java Program Unit Test Code Bugs, Journal of KIISE, 46(4), 2019

[28] W. Kim, H. Choi, **S. Hong**, Application of M/G/c/c Queueing Models to Optimize Book Circulation Process in University Library, Journal of the Korea Management Engineering Society, Dec 2016

[29] Y. Jeon, Y. Kim, **S. Hong**, M. Kim, Mutagen4J: Effective Mutation Generation Tool for Java Programs, Journal of KIISE (JOK), 43(9), pp. 974—982, Sep 2016

[30] Y. Park, **S. Hong**, M. Kim, Performance Bug Detection in Web Applications through Cross-browser Profiling, Journal of KIISE: Computing Practices and Letters, Vol. 19(11), Nov 2013

[31] M. Kim and **S. Hong**, Model-based Kernel Testing (MOKERT) Framework, Journal of KIISE: Software and Applications, Vol. 36(7), pp. 523—530, Jul 2009

- **Domestic conference papers (referred, written in Korean)**

[32] J. Kim, S. Kim, **S. Hong**, How Does a Unit-level Test Case for Continuous Fuzzing Evolve: An Empirical Study of Code Changes in OSS-Fuzz Projects, Korean Congress of Computing (KCC), Jun 30-Jul 1, 2022

[33] H. Yoo and **S. Hong**, OSSFuzzBugs: A Collection of Open-source Real-world Fault Artifacts for Experimenting Unit-level Fuzzing Techniques, Korean Congress of Computing (KCC), Jun 23-25, 2021

[34] H. Choe and **S. Hong**, Multi-directional Concolic Testing Search Strategies for Mitigating Path-space Local Search Problem, Korean Software Engineering Conference (KCSE), Feb 1-2, 2021 (short paper)

[35] J. Cho and **S. Hong**, Improving Mutation-based Fuzzing by Input Keyword Extraction, Korean Software Engineering Conference (KCSE), Feb 1-2, 2021 **(Best short paper award)**

[36] D. Kim, S. Kim, **S. Hong**, Effective Continuous Testing with Automated Unit Test Generation Technique, Korean Software Congress (KSC), Dec 2020 (**Best undergraduate student paper award**)

[37] J. Jeon, **S. Hong**, Detecting Subtype Inconsistency Errors by Unit Test Cross-checking, Korean Congress of Computing (KCC), July 2020

[38] J. Kim, Y. Jeon, **S. Hong**, Design and Implementation of Code-related Conversation Service for Online Programming Education, Korean Congress of Computing (KCC), July 2019

[39] J. Kim, **S. Hong**, Evaluation of Test Requirement Extraction Techniques for Javadoc Description, Korean Software Engineering Conference (KCSE), 2020 (short paper)

[40] H. Choe, H. Leem, H. Kim, **S. Hong**, Design and Implementation of Distributed Concolic Testing Tool for

Embedded Software, Korean Software Engineering Conference, 2020 **(Best short paper award)**

[41] J. Jeon and **S. Hong**, Improving Mutation-Based Fault Localization for Better Locating Omission Faults, Korean Software Congress (KSC), Dec 2019 **(Best paper award)**

[42] C. Kim, J. Oh, H, Jeong, M. Ha, **S. Hong**, Design and Implementation of Automated Programming Assignment Assessment Systems for GitHub Repositories, Korean Software Congress (KSC), Dec 2019 **(Best paper award)**

[43] H. Choe and **S. Hong**, Bounded Search Strategies of Concolic Testing for Effective and Efficient Test Coverage Achievement, Korean Congress of Computing (KCC), Jun 26-28, 2019 (**Best paper award**)

[44] **S. Hong**, Y. Kim, M. Kim, S. Yoon, H. Jeong, S. Park, AtomicitySanitizer: Effective Runtime Atomicity Violation Detector for Multithreaded C Programs, Korean Software Congress (KSC), Dec 19-21, 2019 **(Best paper presentation award)**

[45] H. Choe and **S. Hong**, A Classification of Unit Test Bugs in Java Programs, Korean Congress of Computing (KCC), Jun 20-22, 2018 (**Best paper award**)

[46] J. Lee and **S. Hong**, Detecting Memory Bloats of Java Programs by Monitoring Repeated Unit Test Executions: A Case Study with Apache Commons VFS, Korean Software Engineering Conference (KCSE), Jan 19-21, 2018

[47] J. Lim and **S. Hong**, Effective Korean-English Parallel Sentence Extraction from Wikipedia by Consecutive Sentence Sequence Matching, Korean Congress of Computing (KCC), Jun 18-21, 2017

[48] Y. Park, **S. Hong**, M. Kim, J. Cho, D. Lee, H. Jang, 이벤트 기반 임베디드 소프트웨어를 위한 자동화 테스팅 기법: LG전자 오븐 제어 소프트웨어 사례 연구, Korea Conference on Software Engineering (KCSE), Jan 28-30, 2015 (**Best paper award**)

[49] **S. Hong**, M. Kim, M. Staats, Validating Inferred Invariants using Symbolic Execution, Korea Conference on Software Engineering (KCSE), Feb 8—10, 2012

[50] J. Ahn, **S. Hong**, M. Kim, 동시성 프로그램 테스트를 위한 구조 커버리지 기법 조사, Korea Conference on Software Engineering (KCSE), Feb 8—10, 2012

[51] M. Kim, C. Hong and **S. Hong**, 검증 반례 재연을 통한 모델 기반 커널 테스팅, Korea Conference on Software Engineering (KCSE), Feb. 9-11, 2009 (**Best paper award**)

- **Miscellaneous**

[52] A. Bertolino, **S. Hong**, A. P. Mathur (co-editors), Special Issue on Automation of Software Test and Test Code Quality, Journal of Software Evolution and Process, Apr 2022

[53] J. Jeon and **S. Hong**, Improving Mutation-Based Fault Localization with Plausible-code Generating Mutation Operators, IEEE/ACM International Conference on Automated Software Engineering (ASE), Late Breaking Results (LBR), 2021, Nov 2021 (poster presentation)

[54] **S. Hong** and J. Kim, Special Issue on Software Evolution and Maintenance Techniques, Communications of the KIISE, 39(10), 2021, Co-invited editors

[55] A. Bertonlino, F. Belli, **S. Hong**, A. P. Mathur, AST '20: Proceedings of the IEEE/ACM 1st International Conference on Automation of Software Test, ACM, Oct. 2020, Co-editors

[56] **S. Hong**, Using SMT Solver and Logic Puzzles for Teaching Computational Logics in Discrete Mathematics Class, Poster, Technical Symposium on Computer Science Education (SIGCSE), 2020 (poster presentation)

[57] M. Kim, Y. Kim, **S. Hong**, 동적 심볼릭 테스팅(Concolic 테스팅): 효과적인 오류 검출을 위한 실용적인 Whitebox 테스트 입력 생성 기법, Communications of KIISE, April, 2019

Projects

- **Government funded projects (selected)**

1. Project investigator, Fuzzing based Test Case Generation Techniques for Effective Continuous Testing of Software Projects, Young Researcher Program, National Research Foundation of Korea (NRF), 2020-2023 (on going)
2. Sector leader and Research associate, Center for Software Disaster Research, Excellent Research Center (ERC), NRF, 2021-2028 (on going)
3. Project manager, Development of automatic software error repair technology that combines code analysis and error mining, IITP, 2021-2022 (on going)
4. Project manager, Intelligent Automation Techniques for Fullstack Software Debugging, Next-Generation Information Computing Development Program, National Research Foundation (NRF), May 2017-Apr 2021
5. Project investigator, Developing Automated Software Test Generation Techniques Using Data-driven Analyses, National Research Foundation of Korea (NRF), May 2017–Feb 2020
6. Project investigator, Detecting Software Performance Bugs Using Automated Unit Test Generation Techniques, National Research Foundation of Korea (NRF), Nov 2015—Oct 2016

- **Industry funded project and consulting (selected)**

1. Lead Consultant, Fuzzing Techniques for SAP HANA Unit Tests for Crash Bug Detection and Reliability Enhancement in Continuous Integration Process, SAP Labs Seoul, Jan-July 2021
2. Lead Consultant, On Fault Localization Techniques for SAP HANA Development Environment and Continuous Integration Process, SAP Labs Seoul, Aug-Dec 2020
3. Project manager, Using Neural Embedding for Tracking Source Code Changes, Samsung Research through KAIST, Nov-Dec, 2020
4. Project manager, Assessing Quality of Test Case Artifacts, Samsung Electronics through KAIST, Apr-Nov, 2019
5. Project manager, Runtime Analysis of Embedded Multithreaded Programs, Samsung Electronics through KAIST, Apr-Oct, 2018
6. Project manager, Automation of Static Analysis Warning Classification based on Developer's Warning Classification Records, Samsung Electronics through KAIST, May 2017—Nov 2017

Patents

1. Co-inventor, Patent Application No. 10-2021-0097630, Method and system for extracting fine-grained traceability links between API document comments and test code lines, Jul 2021
2. Co-inventor, Patent No. 10-2114548 of South Korea, Testing Method and Apparatus of Target Program Using Mutated Program, May 18, 2020
3. Co-inventor, Patent No. 10-19783680000 of South Korea, Monitoring System and Method of the Handicap Parking Zone Using Visual Display, May 8, 2019
4. Co-inventor, Patent No. 10-16852990000 of South Korea, Automated Testing Method and Apparatus for Program Processable Non-deterministic Events, Dec 5, 2016
5. Co-inventor, Patent No. 1015194500000 of South Korea, Auto-Test Generation Device, Method and Recording Medium Using Test Coverage Information for Multi-Thread Program, Jul 12, 2015

Technical Presentations

1. Mutation-based Fault Localization with Intelligent Code Mutation, SIGPL Summer School, SIGPL of KIISE, Aug 22, 2022
2. Lectures on Greybox Fuzzing, Software Engineering Summer Course, Korean Software Engineering Society of

KIISE, July 25—July 27, 2022

3. Dynamic Test Generation: Greybox Fuzzing and Concolic Testing, SK Hynix, Nov 4, 2021
4. Lectures on Software Testing Foundation and Advances, Software Testing Intensive Course, Samsung Advanced Technology Training Institute, Samsung Research, July 2021-present
5. Unit-level Fuzzing for C/C++ Programs, Tutorial Session, Korean Software Engineering Conference (KCSE), Feb 2, 2021
6. Assessing and Ensuring Software Correctness: Code Analysis Approach, Korea Atomic Energy Research Institute (KAERI), July 31, 2019
7. Automated Test Input Generation Using Dynamic Symbolic Executions, STA Testing Consulting, Inc., Oct 29, 2018
8. Predicting Static Analysis False Positives by Learning from Alarm Review Data, Workshop on Formal Methods and Software Verification (collocated with International Conference on Formal Aspects of Component Software), Pohang, Oct 13, 2018
9. Invasive Software Testing: Mutating Target Programs to Achieve High Test Coverage, ICST, Apr 10, 2018
10. Go with the Mutants: Automated Debugging and Test Generation Using Software Mutation Analyses, New Faculty Session, Korean Software Engineering Conference (KCSE), Jan 19, 2018
11. Developing and Testing Multithreaded Programs Systematically, Software Center at Samsung Electronics, Nov 27 and Dec 11, 2017
12. Lectures on Automated Software Testing, LG Software Development Engineering in Testing (SDET) Expert Training Program, Jun 28-29, 2017
13. Automated Software Debugging: A Mutation-based Approach, New Faculty Session, KIISE Annual Conference, Dec 22, 2016
14. Automated Software Debugging: A Mutation-based Approach, POSTECH CSE Seminars, Oct 26, 2016
15. Mutation Based Fault Localization for Real-World Multilingual Programs, ASE, Nov 12, 2015
16. Systematic Testing of Reactive Software with Non-deterministic Events: A Case Study on LG Electric Oven, ICSE SEIP Track, May 20, 2015
17. Detecting Concurrency Errors in Client-side JavaScript Web Applications, ICST, Apr 1, 2014
18. Impact of Concurrent Coverage Metrics on Testing Effectiveness, ICST, Mar 20, 2013
19. Testing Concurrent Programs to Achieve High Synchronization Coverage, ISSTA, Jul 18, 2012

Research Supervision

1. Jeewoong Kim, Ph. D Program, Handong Global University, Mar 2022—present
2. Sungbin Lim, Master's degree program, Handong Global University, Mar 2022—present
3. Suhyun Park, Master's degree program, Handong Global University, Mar 2022—present
4. Hanyoung Yoo, Master's degree program, Handong Global University, Mar 2020—Feb 2022
5. Jeewoong Kim, Master's Degree Program, Handong Global University, Mar 2019—Aug 2021
6. Juyoung Jeon, Master's Degree Program, Handong Global University, Mar 2019—Feb 2021
7. Hansol Choe, Master's Degree Program, Handong Global University, Mar 2018—Feb 2021

Ph. D Dissertation Committee

1. Joonyoung Park, Ph.D candidate, School of Computer Science, KAIST

Teaching Experience

1. Program Director, Computer Science and Engineering Track, Handong Global University, Mar 2020--Feb 2022
2. Instructor, Handong Global University, 2016—present
   - Operating system (undergraduate level), 2019S, 2020S, 2021S
   - Discrete mathematics (undergraduate level), 2017F, 2018F, 2019F, 2020S, 2021F
   - Software engineering (undergraduate level), 2016F, 2017F, 2018S, 2019S
   - Problem solving with computational thinking (undergraduate level), 2016F, 2017F, 2018F, 2019F, 2020F, 2021F
   - Special Topic – Software Testing and Debugging, 2021F
   - Compiler theory (undergraduate level), 2017S
   - Open source software (undergraduate level), 2017S, 2018S
   - Data Structure (undergraduate level), 2020S
   - C Programming (undergraduate level), 2018W, 2019W
   - Java Programming (undergraduate level), 2018F
   - IT Project Practice (undergraduate level), 2017F, 2018F, 2019F
   - Introduction to Big Data Analytics (HGU-KOICA Master program), 2019S, 2019F
   - Database system (undergraduate level), 2016S, 2017S
   - Digital logic design (undergraduate level), 2016S

3. Undergraduate Capstone Project Supervision, Handong Global University, 2016—present
   - Greybox Fuzzing Tool for Testing PHP Applications, June 2021
   - Effective Continuous Testing with Automated Unit Test Generation Technique, Dec 2020
   - D-Angora: Extending Angora to Effective Distributed Fuzzing, Jun 2020
   - Packet Sniffing-based Network Access Monitoring Systems for Smart Home Service Security, Jun 2020
   - Design and Implementation of Code-related Conversation Service for Online Programming Education, Jun 2020
   - Web-based Programming Test Platform for University Programming Course, Jun 2020
   - Digital Forensic Tools for Analyzing Apple File System Images, Jun 2020
   - Design and Implementation of Automated Programming Assignment Assessment Service and Systems for GitHub Repositories, Dec 2019
   - Security Vulnerability Checkers for Server-side Python Web Applications, Jun 2019
   - Distributed Concolic Testing Tool for Testing Embedded Software, Jun 2019
   - Security Vulnerability Checkers for PHP Web Applications, Dec 2018
   - PicKey: Secure Password Management System with Image-Hint, Jun 2018
   - Synthesizing Git Commit Message Using Neural Translations, Jun 2018
   - Developing FindSecurityBugs Checkers for Korean Security Vulnerability Inspection Guideline, Dec 2017
   - TrashMon: Precise Trash Dumping Detection Using Image Processing Techniques, Jun 2017
   - Extracting Korean-English Parallel Sentence Corpus from Open Source Bilingual Texts, Jun 2017

4. Industry training program
   - Program Director and Instructor, Software Testing Intensive Course, Samsung Advanced Technology Training Institute, Samsung Research, July 2021—present
   - Instructor, LG Software Development Engineering in Testing (SDET) Expert Training Program, Jun 28-29, 2017
5. Teaching assistant (selected)
   - Software Testing and Verification, CS, KAIST, Sep 2014—Dec 2014 **(Excellent teaching assistant award)**
   - Analysis of Concurrent Programs, CS, KAIST, Mar 2014—Jun 2014
   - Introduction to Logic for Computer Science, CS, KAIST, Sep 2007—Dec 2007, Feb 2011—May 2011, Mar 2012—Jun 2012, Mar 2013—Jun 2013

Awards and Scholarships

1. Best Paper of Software Engineering Society Award, Korea Institute of Information Science and Engineering (KIISE), Dec 2021
2. Best Short Paper Award, Korean Software Engineering Conference (KCSE), Feb 2021
3. Best Undergraduate Student Paper Award (Honorable Mention), Undergraduate Student Research Competition, Korean Software Congress (KSC), Dec 2020
4. Distinguished Paper, Undergraduate Student Research Competition, Korean Computer Congress (KCC), Jul 2020
5. Best Short Paper Award, Korean Software Engineering Conference (KCSE), Feb 2020
6. Best Paper Awards (Software Engineering), Korean Software Congress (KSC), Dec 2019
7. Best Paper Awards (Computing Education System), Korean Software Congress (KSC), Dec 2019
8. First Rank (Winner), CodRep 2019: Machine Learning on Software Code Competition, Oct 2019
9. Best Paper Award, Korean Computer Congress (KCC), Jun 2019
10. Best Paper, Undergraduate Student Research Competition, Korean Computer Congress (KCC), Jun 2019
11. Best Paper Award (Undergraduate Student Track), Korean Software Engineering Conference (KCSE), Jan 2019
12. Best Paper Presentation Award, Korean Software Congress (KSC), Jun 2018
13. Best Paper Award, Korean Computer Congress (KCC), Jun 2018
14. Best Undergraduate Student Paper Award (Honorable Mention), Undergraduate Student Research Competition, Korea Computer Congress (KCC), Jun 2018
15. Distinguished Paper Award, 11th IEEE International Conference on Software Testing, Verification and Validation (ICST), Apr 11, 2018
16. Best Paper Award, Korea Management Engineers Society, Nov 2017
17. Excellent Teaching Assistant Award, CS, KAIST, Mar 2015
    - CS453 Software Testing and Verification, Sep to Dec 2014
18. Best paper award (short paper), Korea Conference on Software Engineering (KCSE), 2015
19. Best paper award, Korean Institute of Information Scientists and Engineers, 33rd Student Research Paper Competition (graduate student track), Jun 2014
    - **S. Hong**, Y. Park, Effective Testing of Concurrent Programs using Combinatorial Concurrent Coverage
20. Qualcomm Fellowship Award, Aug 2013
    - **S. Hong** and Y. Park, WAVE: Testing Framework to Detect Concurrency Bugs in Dynamic Web Applications
21. Bronze award, Samsung HumanTech Thesis Competition, 2012
    - **S. Hong**, COBET: Pattern-driven Concurrency Bug Detection Framework
22. Best paper award, Korea Conference on Software Engineering (KCSE), 2009
23. Korea Presidential Science Scholarship, Mar 2003 to Feb 2007

Professional Activities

- **Organizing committee**
  - Program Co-chair, International Conference on Automation of Software Test (AST), 2020
  - Web Co-Chair, International Conference on Software Engineering (ICSE), 2020
- **International conferences/workshops program committee**
  - International Conference on Software Testing, Verification and Validation (ICST), 2018, 2019, 2023
  - International Conference on Software Engineering (ICSE), Software Engineering in Practice Track, 2020
  - International Workshop on Intelligent Bug Fixing (IBF), 2020, 2021
  - International Workshop on Realizing Artificial Intelligence Synergies in Software Engineering (RAISE), 2020
  - International Symposium on Software Testing and Analysis (ISSTA), Artifact Evaluation Committee, 2015,

2018
- International Workshop on Empirical Software Engineering in Practice (IWSEP) 2017, 2018
- Asia-Pacific Software Engineering Conference (APSEC) 2016, 2021, 2022

- **Reviewer of international journals**
  - Software Testing, Verification and Reliability (STVR), 2020
  - Software: Practice and Experience (SPE), 2020
  - IEEE Transactions on Reliability, 2020
  - IEEE Transactions on Dependable and Secure Computing. 2020
  - IEEE Transactions on Software Engineering (TSE), 2016, 2017, 2019, 2021
  - Empirical Software Engineering (ESEM), 2017, 2022
  - Journal of Systems and Software (JSS), 2017
  - Journal of Computing Science and Engineering, 2017
  - The Frontiers of Computer Science Journal, 2016
  - IEEE Transactions on Parallel and Distributed Systems (TPDS), 2016
  - Journal of Computer Science and Technology (JCST), 2016
- **External reviewer (co-/sub-reviewer) for international journals and conferences**
  - International Conference on Software Testing and Analysis (ISSTA), 2017
  - International Conference on Software Engineering (ICSE), 2014, 2015, 2016
  - IEEE Transactions on Software Engineering (TSE), 2013, 2015
  - Information and Software Technology (IST), 2015
  - International Conference on Software Testing, Verification, and Validation (ICST), 2015
  - IEEE Transactions on Parallel and Distributed Systems (TPDS), 2014
  - International Symposium on Software Testing and Analysis (ISSTA), 2014
  - Verified Software: Theories, Tools, Experiments (VSTTE) 2014
  - International Conference on Automated Software Engineering (ASE), Tool track, 2013
  - Symposium on Principles of Programming Languages (POPL), 2013
  - International Symposium on Automated Technology for Verification and Analysis (ATVA), 2012, 2013
  - IEEE Transactions on Computers (TC), 2011
  - Software Testing, Verification and Reliability Journal (STVR), 2011
- **Industry**
  - Technical Advisory Committee, TrinitySoft Inc., 2018-2020

Other Activities

1. President of CS Undergraduate Students, Mar 2005—Feb 2006
2. Vice-president of CS Undergraduate Sophomores, Mar 2004—Feb 2005

(last update: Sep 9, 2022)