Jiyeon Lee

Ph.D. Candidate
School of Computing,
Korea Advanced Institute of Science and Technology (KAIST)
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Research Interests

General Topics in Web Security and Privacy, Software Security, and Cybercrime

Education

Korea Advanced Institute of Science and Technology (KAIST) Mar. 2014 – Aug. 2021
Ph.D. in School of Computing
Thesis: Security Defects and Client-side Countermeasures on Emerging Web Technologies
Advisor: Dr. Insik Shin

Korea Advanced Institute of Science and Technology (KAIST) Feb. 2012 – Feb. 2014
M.S. in School of Computing
Thesis: Thread-level Priority Assignment in Global Multiprocessor Scheduling for Parallel Tasks
Advisor: Dr. Insik Shin

Dankook University Mar. 2007 – Feb. 2012
B.S. in Computer Science

Publications

1. **AdCube: WebVR Ad Fraud and Practical Confinement of Third-Party Ads (To appear)**
   Hyunjoo Lee, **Jiyeon Lee (co-first)**, Daejun Kim, Suman Jana, Insik Shin, Sooel Son
   Proceedings of the 30th USENIX Security Symposium (Security 2021), Virtual, Aug. 2021

2. **CanvasMirror: Secure Integration of Third-Party Library in WebVR Environment**
   Jiyeon Lee
   Doctoral Forum of 50th IEEE/IFIP Conference on Dependable Systems and Networks (DSN 2020), Virtual, Jun. 2020

3. **Pride and Prejudice in Progressive Web Apps: Abusing Native App-like Features in Web Applications**
   Jiyeon Lee, Hayeon Kim, Junghwan Park, Insik Shin, Sooel Son
   Proceedings of the 25th ACM Conference on Computer and Communications Security (CCS 2018), Toronto, Canada, Oct. 2018

4. **Global EDF Schedulability Analysis for Parallel Tasks on Multi-core Platforms**
   Hoon Sung Chwa, Jinkyu Lee, **Jiyeon Lee**, Kieu-My Phan, Arvind Easwaran, Insik Shin
   IEEE Transactions on Parallel & Distributed Systems (TPDS), Vol. 28, No. 5, pp.1331-1345, May. 2017

5. **Thread-level Priority Assignment in Global Multiprocessor Scheduling for DAG Tasks**
   Jiyeon Lee, Hoon Sung Chwa, Jinkyu Lee, Insik Shin
   Journal of Systems and Software (JSS), Vol. 113, pp. 246-256, Mar. 2016

6. **Parallel Task Multi-core Scheduling for Real-Time Cyber-Physical Systems**
   Jiyeon Lee, Insik Shin
   Telecommunications Review, Aug. 2015

7. **GPGPU Parallelization Techniques for Redundancy Elimination Algorithm (Best Paper Award)**

Byunggil Joe, DaeLyong Jeong, **Jiyeon Lee**, Insik Shin
Korean Institute of Information Scientists and Engineers (KIISE 2014), Pyeongchang, South Korea, Dec. 2014

8. **MC-Fluid: Fluid Model-based Mixed-Criticality Scheduling on Multiprocessors (Best Paper Runner-up Award)**
Jaewoo Lee, Kieu-My Phan, Xiaozhe Gu, **Jiyeon Lee**, Arvind Easwaran, Insik Shin, Insup Lee
Proceedings of the 35th IEEE Real-Time Systems Symposium (RTSS 2014), Rome, Italy, Dec. 2014

9. **Real-time Audio Coordination Framework for Immersive Sound Reproduction**
Hyosu Kim, **Jiyeon Lee**, Hwidong Bae, Insik Shin
Demo session at the 25th IEEE Real-Time Systems Symposium (RTSS@Work 2014), Rome, Italy, Dec. 2014

10. **Mobile Maestro: Enabling Immersive Multi-Speaker Audio Applications on Commodity Mobile Devices**
Hyosu Kim, SangJeong Lee, Jung-Woo Choi, Hwidong Bae, **Jiyeon Lee**, Junehwa Song, Insik Shin
Proceedings of the 16th ACM International Conference on Ubiquitous Computing (UBiComp 2014), Seattle, WA, US, Sep. 2014

11. **GPU-SPARC: Accelerating Parallelism in Multi-GPU Real-Time Systems**
Wookhyun Han, Hwidong Bae, Hyosu Kim, **Jiyeon Lee**, Insik Shin
Technical Report, School of Computing, KAIST, CS-TR-2014-391, Aug. 2014

12. **RT-SDN: Adaptive Routing and Priority Ordering for Software-Defined Real-Time Networking**
Sangeun Oh, **Jiyeon Lee**, Kilho Lee, Insik Shin
Technical Report, School of Computing, KAIST, CS-TR-2014-387, Aug. 2014

13. **A Survey on Real-time Support for Mixed-criticality Cyber-Physical Systems**
Jaewoo Lee, **Jiyeon Lee**, Insik Shin
Korea Information Science Society, Vol. 31, No. 12, Dec. 2013

14. **Optimal Priority Assignment for Parallel Tasks under Fixed Priority Scheduling in Real-time Systems (Best Paper Award)**
Jiyeon Lee, Hoon Sung Chwa, Insik Shin
Korean Institute of Information Scientists and Engineers (KIISE 2013), Jeju, South Korea, Nov. 2013

Work Experience

Research Director, WISET Research Project, Seoul, South Korea — Apr. 2020 – Oct. 2020
WebVR Ad Service

Research Intern, Microsoft Research Asia, Beijing, China — Apr. 2019 – Jun. 2019
Mentor: Yunxin Liu in Intelligent Cloud and Edge Group
Side-channel Attacks in VR

Research Intern, Embedded System Lab, Gyeonggi-do, South Korea — Dec. 2010 – Jan. 2012
Advisor: Jongmoo Choi
I/O Scheduling for Virtualization, Massive MLC SSD Project

Honors & Awards

Student Grant, The 28th IEEE Network and Distributed System Security Symposium — Feb. 2021
EECS Rising Stars in Korea — Sep. 2020
Ph.D. Fellowship, NAVER Corporation — Nov. 2019
Bug Bounty, Samsung Internet push notification origin missing — Jan. 2019
KAIST-D'LIVE Research & Presentation Scholarship, D'LIVE — Dec. 2018
Student Travel Grant, The 25th ACM Computer and Communications Security — Oct. 2018

Best Paper Award, The 41st Korean Institute of Information Scientists and Engineers Jan. 2015
Best Paper Runner-up, The 35th IEEE Real-Time Systems Symposium Dec. 2014
Best Paper Award, The 40th Korean Institute of Information Scientists and Engineers Nov. 2013
Excellent Records Awards, Dankook University 2010 – 2011

Professional Activities

Teaching Assistant or Preceptor

Operating Systems and Lab. (CS330), School of Computing, KAIST, 2012 – 2015
Real-time Systems (CS634), School of Computing, KAIST, Fall 2014
Counseling Assistant, School of Computing, KAIST, Spring 2013, Spring 2016, Spring 2018
Introduction to Data Science in Python, Elice academy, Feb. 2018 – Mar. 2018
Computing Security (SEP543), School of Computing, KAIST, Summer 2021

Sub Reviewer

ACM SIGBED International Conference on Embedded Software (EMSOFT), 2012
Real-Time Computing Systems and Applications (RTCSA), 2013
IEEE Real-Time Systems Symposium (RTSS), 2012 - 2014
IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS), 2013 - 2014
Euromicro Conference on Real-Time Systems (ECRTS), 2012, 2014, 2015
Emerging Technologies and Factory Automation (ETFA), 2015