

Jiyeon Lee

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RESEARCH INTERESTS

General Topics in Web Security and Privacy, Software Security, Cybercrime, Side-channel attacks

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: 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: Insik Shin

Dankook University Mar. 2007 – Feb. 2012

B.S. in Computer Science

PUBLICATIONS

International publications

1. **Exploiting Missing Value Patterns for a Backdoor Attack on Machine Learning Models of Electronic Health Records: Development and Validation Study**
Byunggil Joe, Yonghyeon Park (co-first), Jihun Hamm, Insik Shin, **Jiyeon Lee**
JMIR Medical Informatics, Vol. 10, No. 8, Aug. 2022
2. **AdCube: WebVR Ad Fraud and Practical Confinement of Third-Party Ads**
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
3. **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
4. **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
5. **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
6. **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

7. **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
8. **Real-time Audio Coordination Framework for Immersive Sound Reproduction**
Hyosu Kim, **Jiyeon Lee**, Hwidong Bae, Insik Shin
Demo session at the 35th IEEE Real-Time Systems Symposium (RTSS@Work 2014), Rome, Italy, Dec. 2014
9. **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

Domestic Publications

1. **Metadata-based Backdoor Attack on Medical Neural Networks**
Yonghyeon Park, Byunggil Joe, **Jiyeon Lee**, Minwoo Jeong, Insik Shin
Workshop on Dependable and Secure Computing, Jeju, South Korea, Aug. 2021
2. **Parallel Task Multi-core Scheduling for Real-Time Cyber-Physical Systems**
Jiyeon Lee, Insik Shin
Telecommunications Review, Aug. 2015
3. **GPGPU Parallelization Techniques for Redundancy Elimination Algorithm (Best Paper Award)**
Byunggil Joe, Dae R. Jeong, **Jiyeon Lee**, Insik Shin
Korean Institute of Information Scientists and Engineers (KIISE 2014), Pyeongchang, South Korea, Dec. 2014
4. **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
5. **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
6. **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
7. **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

Postdoc Researcher, MISYS Lab, Soongsil Univ., South Korea	Sep. 2021 – Current
Advisor: Kilho Lee	
Dependable Autonomous Vehicles, WebVR Side-channel Attacks	
Research Intern, Microsoft Research Asia, China	Apr. 2019 – Jun. 2019
Mentor: Yunxin Liu in Intelligent Cloud and Edge Group	
Edge Intelligence	

Research Intern, Embedded System Lab, Dankook Univ., South Korea Dec. 2010 – Jan. 2012

Advisor: Jongmoo Choi

I/O Scheduling for Virtualization, Massive MLC SSD Project

HONORS & AWARDS

Post-Doc Domestic Training Fellowship , NRF	2022 – 2023
Student Grant , The 28th IEEE Network and Distributed System Security Symposium	Feb. 2021
EECS Rising Stars in Korea	Sep. 2020
STEM Research Team Project Fellowship , WISNET	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

External Reviewer

ACM ASIA Conference on Computer and Communications Security (ASIACCS), 2022

Emerging Technologies and Factory Automation (ETFA), 2015

Euromicro Conference on Real-Time Systems (ECRTS), 2012, 2014 - 2015

IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS), 2013 - 2014

IEEE Real-Time Systems Symposium (RTSS), 2012 - 2014

Real-Time Computing Systems and Applications (RTCSA), 2013

ACM SIGBED International Conference on Embedded Software (EMSOFT), 2012