

# Jiyeon Lee

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## RESEARCH INTERESTS

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

## EDUCATION

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**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

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### International publications

1. **Spy in Your Eye: Spycam Attack via Open-Sided Mobile VR Device**  
Jiyeon Lee, Kilho LEE  
IEICE TRANSACTIONS on Information and Systems, Vol.E105-D, No.10, pp.1817-1820, Oct. 2022
2. **Exploiting Missing Value Patterns for a Backdoor Attack on Machine Learning Models of Electronic Health Records: Development and Validation Study**  
Byunggill Joe, Yonghyeon Park (co-first), Jihun Hamm, Insik Shin, Jiyeon Lee  
JMIR Medical Informatics, Vol. 10, No. 8, Aug. 2022
3. **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
4. **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
5. **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
6. **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

7. **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
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 35th 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

## 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**  
Mentor: Yunxin Liu in Intelligent Cloud and Edge Group  
Edge Intelligence

Apr. 2019 – Jun. 2019

**Research Intern, Embedded System Lab, Dankook Univ., South Korea**  
Advisor: Jongmoo Choi  
I/O Scheduling for Virtualization, Massive MLC SSD Project

Dec. 2010 – Jan. 2012

## HONORS & AWARDS

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<b>Post-Doc Domestic Training Fellowship, NRF</b>	2022 – 2023
<b>Student Grant, The 28th IEEE Network and Distributed System Security Symposium</b>	Feb. 2021
<b>EECS Rising Stars in Korea</b>	Sep. 2020
<b>STEM Research Team Project Fellowship, WISET</b>	2020
<b>Ph.D. Fellowship, NAVER Corporation</b>	Nov. 2019
<b>Bug Bounty, Samsung Internet push notification origin missing</b>	Jan. 2019
<b>KAIST-D'LIVE Research &amp; Presentation Scholarship, D'LIVE</b>	Dec. 2018
<b>Student Travel Grant, The 25th ACM Computer and Communications Security</b>	Oct. 2018
<b>Best Paper Award, The 41st Korean Institute of Information Scientists and Engineers</b>	Jan. 2015
<b>Best Paper Runner-up, The 35th IEEE Real-Time Systems Symposium</b>	Dec. 2014
<b>Best Paper Award, The 40th Korean Institute of Information Scientists and Engineers</b>	Nov. 2013
<b>Excellent Records Awards, Dankook University</b>	2010 – 2011

## PROFESSIONAL ACTIVITIES

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### 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