

# Jiyeon Lee

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## RESEARCH INTERESTS

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

## 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: 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

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### International publications

1. **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
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. **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

7. **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
8. **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, DaeLyong 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

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<b>Postdoc Researcher, MISYS Lab, Soongsil Univ., South Korea</b> Advisor: Kilho Lee Dependable Autonomous Vehicles, WebVR Side-channel Attacks	Sep. 2021 – Current
<b>Research Director, WISSET Research Project, South Korea</b> WebVR Ad Service	Apr. 2020 – Oct. 2020
<b>Research Intern, Microsoft Research Asia, China</b> Mentor: Yunxin Liu in Intelligent Cloud and Edge Group VR Side-channel Attacks	Apr. 2019 – Jun. 2019
<b>Research Intern, Embedded System Lab, Dankook Univ., South Korea</b> Advisor: Jongmoo Choi	Dec. 2010 – Jan. 2012

## HONORS & AWARDS

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