

# Dr. YEONGJIN JANG, Ph.D.

Principal Engineer, Software  
Samsung Research America  
665 Clyde Ave, Mountain View, CA, 94043  
(Working remotely in Vancouver, WA)

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🌐 <https://unexploitable.systems>  
🔗 [Google Scholar](#)  
🔗 [LinkedIn](#)

## RESEARCH INTERESTS

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I am interested in computer systems security, especially in: ML-assisted Automated Vulnerability Discovery and Patching, Utilizing Large Language Models (LLMs) for Security, Fuzzing and Symbolic Execution, Exploit Mitigations, Secure Systems Design, Trusted Execution Environment, Crypto-system Co-design, Architectural Side-channel Attacks, and Mobile Security.

## EDUCATION

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GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA	Aug 2010 — Aug 2017
Ph.D. in Computer Science	August 2017
Dissertation Title: Building Trust in the User I/O in Computer Systems	
M.S. in Computer Science (Specialty: <i>Computer Systems</i> )	August 2016
Advisors: Prof. Wenke Lee and Prof. Taesoo Kim	
KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY, Daejeon, South Korea	Mar 2003 — Feb 2010
B.S. in Computer Science, <i>Magna Cum Laude</i>	
Thesis Title: Hardware Implementation of MD5 Brute-force Attacker (on FPGA)	
Advisor: Prof. Seungryoul Maeng	

## WORK EXPERIENCE

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SAMSUNG RESEARCH AMERICA, Mountain View, CA, USA	Aug 2023 — Current
Principal Software Engineer for Vulnerability Research	
OREGON STATE UNIVERSITY, Corvallis, OR, USA	Oct 2017 — Jun 2023
Tenure-track Assistant Professor of Computer Science	
GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA, USA	Jan 2015 — Aug 2017
Graduate Research Assistant	
SECURITY AXIOMS, INC., Atlanta, GA, USA	May 2012 — Dec 2014
Chief Engineer	Jan 2013—Dec 2014
Software Engineering Intern	May 2012—Dec 2012
GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA, USA	Aug 2010 — May 2012
Graduate Research Assistant	
INDEPENDENT CYBERSECURITY CONTRACTOR, Daejeon, South Korea	Jan 2008 — Aug 2010
Conducted penetration testing contracts (government/financial sector)	

HHC, U.S. ARMY GARRISON YONGSAN (USAG-Y), Seoul, South Korea

Aug 2005—Aug 2007

Sergeant (E-4), military occupational specialty (MOS): 42L (administrative clerk)

Army Commendation Medal (ARCOM)

## PUBLICATIONS

18 papers in top-tier conferences (*USENIX Security*, *CCS*, *NDSS*, *ASPLOS*, *FSE*)

6 presentations in *Black Hat USA/Europe Briefings*

## REFEREED JOURNAL ARTICLES

- [1] **Securely Sharing Randomized Code that Flies.**  
Christopher Jelesnianski, Jinwoo Yom, Changwoo Min, and Yeongjin Jang.  
In *ACM Journal Digital Threats: Research and Practice (DTRAP)*, 2022.
- [2] **Enabling the Large-Scale Emulation of Internet of Things Firmware With Heuristic Workarounds.**  
Dongkwan Kim, Eunsoo Kim, Mingun Kim, Yeongjin Jang, and Yongdae Kim.  
In *IEEE Security & Privacy*, 2021.
- [3] **Hardware-Supported ORAM in Effect: Practical Oblivious Search and Update on Very Large Dataset.**  
Thang Hoang, Muslum Ozgur Ozmen, Yeongjin Jang, and Attila A. Yavuz.  
In *Proceedings on Privacy Enhancing Technologies Symposium (PoPETs)*, January 2019.
- [4] **Towards Engineering a Secure Android Ecosystem: A Survey of Existing Techniques.**  
Meng Xu, Chengyu Song, Yang Ji, Ming-Wei Shih, Kangjie Lu, Cong Zheng, Ruian Duan, Yeongjin Jang, Byoungyoung Lee, Chenxiong Qian, Sangho Lee, and Taesoo Kim.  
In *ACM Computing Surveys*, volume 49, pages 38:1–38:47, August 2016.

## REFEREED CONFERENCE PROCEEDINGS

- [5] **Enforcing C/C++ Type and Scope at Runtime for Control-Flow and Data-Flow Integrity (to appear).**  
Mohannad Ismail, Christopher Jelesnianski, Yeongjin Jang, Changwoo Min, and Wenjie Xiong.  
In *Proceedings of the 29th ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, San Diego, CA, April 2024.
- [6] **GENESIS: A Generalizable, Efficient, and Secure Intra-kernel Privilege Separation (to appear).**  
Seongman Lee, Seoye Kim, Chihyun Song, Byeongsu Woo, Eunyeong Ahn, Junsu Lee, Yeongjin Jang, Jinsoo Jang, Hojoon Lee, and Brent ByungHoon Kang.  
In *Proceedings of the 39th ACM/SIGAPP Symposium on Applied Computing (SAC)*, Avila, Spain, April 2024.
- [7] **SGX-USB: Secure USB I/O Path for Secure Enclaves.**  
Yeongjin Jang and Sejin Keem.  
In *Proceedings of the 57th Hawaii International Conference on System Sciences (HICSS)*, Waikiki, HI, January 2024.
- [8] **Protect the System Call, Protect (most of) the World with BASTION.**  
Christopher Jelesnianski, Mohannad Ismail, Yeongjin Jang, Dan Williams, and Changwoo Min.  
In *Proceedings of the 28th ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, Vancouver, Canada, March 2023.
- [9] **A Survey on Sensor False Data Injection Attacks and Countermeasures in Cyber-physical and Embedded Systems.**  
Jinhong Choi and Yeongjin Jang.  
In *Proceedings of the 23rd World Conference on Information Security Applications (WISA)*, Jeju, South Korea, August 2022.
- [10] **Practical Privacy-Preserving Authentication for SSH.**  
Lawrence Roy, Stan Lyakhov, Yeongjin Jang, and Mike Rosulek.  
In *Proceedings of the 31st USENIX Security Symposium (Security)*, Boston, MA, August 2022.

- [11] **Tightly Seal Your Sensitive Pointers with PACTIGHT.**  
Mohannad Ismail, Andrew Quach, Christopher Jelesnianski, Yeongjin Jang, and Changwoo Min.  
In *Proceedings of the 31st USENIX Security Symposium (Security)*, Boston, MA, August 2022.
- [12] **VIP: Safeguard Value Invariant Property for Thwarting Critical Memory Corruption Attacks.**  
Mohannad Ismail, Jinwoo Yom, Christopher Jelesnianski, Yeongjin Jang, and Changwoo Min.  
In *Proceedings of the 28th ACM Conference on Computer and Communications Security (CCS)*, Seoul, Korea, November 2021.
- [13] **FirmAE: Towards Large-Scale Emulation of IoT Firmware for Dynamic Analysis.**  
Mingeun Kim, Dongkwan Kim, Eunsoo Kim, Suryeon Kim, Yeongjin Jang, and Yongdae Kim.  
In *Proceedings of the 2020 Annual Computer Security Applications Conference (ACSAC)*, Austin, TX, December 2020.
- [14] **CrFuzz: Fuzzing Multi-purpose Programs through Input Validation.**  
Suhwan Song, Chengyu Song, Yeongjin Jang, and Byoungyoung Lee.  
In *Proceedings of the 2020 ACM Joint European Software Engineering Conference and Symposium (ESEC/FSE)*, Sacramento, CA, November 2020.
- [15] **MARDU : Efficient and Scalable Code Re-randomization.**  
Christopher Jelesnianski, Jinwoo Yom, Changwoo Min, and Yeongjin Jang.  
In *Proceedings of the 13th ACM International Systems and Storage Conference (SYSTOR)*, Haifa, Israel, October 2020.
- [16] **MOSE: Practical Multi-User Oblivious Storage via Secure Enclaves.**  
Thang Hoang, Rouzbeh Behnia, Yeongjin Jang, and Attila Yavuz.  
In *Proceedings of the 10th ACM Conference on Data and Application Security and Privacy (CODASPY)*, New Orleans, LA, March 2020.
- [17] **HFL: Hybrid Fuzzing on the Linux Kernel.**  
Kyungtae Kim, Dae R. Jeong, Chung Hwan Kim, Yeongjin Jang, Insik Shin, and Byoungyoung Lee.  
In *Proceedings of the 2020 Annual Network and Distributed System Security Symposium (NDSS)*, San Diego, CA, February 2020.
- [18] **Fuzzing and Exploiting Virtual Channels in Microsoft Remote Desktop Protocol for Fun and Profit.**  
Chun Sung Park, Yeongjin Jang, Seungjoo Kim, and Ki Taek Lee.  
In *Black Hat Europe Briefings 2019*, London, United Kingdom, December 2019.  
\* [Received \\$10,000 from Microsoft Bug Bounty Program \(CVE-2019-1108\)!](#)
- [19] **BlueMaster: Bypassing and Fixing Bluetooth-based Proximity Authentication.**  
Youngman Jung, Junbum Shin, and Yeongjin Jang.  
In *Black Hat Europe Briefings 2019*, London, United Kingdom, December 2019.  
\* [Received \\$3,133.70 from Google's Vulnerability Reward Program!](#)
- [20] **QSYM: A Practical Concolic Execution Engine Tailored for Hybrid Fuzzing.**  
Insu Yun, Sangho Lee, Meng Xu, Yeongjin Jang, and Taesoo Kim.  
In *Proceedings of the 27th USENIX Security Symposium (Security)*, Baltimore, MD, August 2018.  
\* [Distinguished Paper Award Winner at USENIX Security '18!](#)
- [21] **soFrida - Dynamic Analysis Tool for Mobile Apps with Cloud Backend.**  
Hyunjun Park, Soyeon Kim, Seungjoo Kim, and Yeongjin Jang.  
In *DEF CON 27 Demo Labs*, Las Vegas, NV, August 2019.
- [22] **SGX-Bomb: Locking Down the Processor via Rowhammer Attack.**  
Yeongjin Jang, Jaehyuk Lee, Sangho Lee, and Taesoo Kim.  
In *Proceedings of the 2nd Workshop on System Software for Trusted Execution (SysTEX)*, Shanghai, China, October 2017.  
\* [Top scored paper in SysTEX '17.](#)
- [23] **Hacking in Darkness: Return-oriented Programming against Secure Enclaves.**  
Jaehyuk Lee, Jinsoo Jang, Yeongjin Jang, Nohyun Kwak, Yeseul Choi, Changho Choi, Taesoo Kim, Marcus Peinado, and Brent B. Kang.  
In *Proceedings of the 26th USENIX Security Symposium (Security)*, Vancouver, Canada, August 2017.
- [24] **Breaking Kernel Address Space Layout Randomization with Intel TSX.**  
Yeongjin Jang, Sangho Lee, and Taesoo Kim.  
In *Proceedings of the 23rd ACM Conference on Computer and Communications Security (CCS)*, Vienna, Austria, October 2016.

- [25] **APISAN: Sanitizing API Usages through Semantic Cross-checking.**  
Insu Yun, Changwoo Min, Xujie Si, **Yeongjin Jang**, Taesoo Kim, and Mayur Naik.  
In *Proceedings of the 25th USENIX Security Symposium (Security)*, Austin, TX, August 2016.  
\* [Nominated as one of ten finalists in CSAW Best Applied Research Paper Award 2016.](#)
- [26] **Breaking Kernel Address Space Layout Randomization with Intel TSX.**  
**Yeongjin Jang**, Sangho Lee, and Taesoo Kim.  
In *Black Hat USA Briefings 2016*, Las Vegas, NV, August 2016.
- [27] **UCognito: Private Browsing without Tears.**  
Meng Xu, **Yeongjin Jang**, Xinyu Xing, Taesoo Kim, and Wenke Lee.  
In *Proceedings of the 22nd ACM Conference on Computer and Communications Security (CCS)*, Denver, Colorado, October 2015.
- [28] **Breaking and Fixing VoLTE: Exploiting Hidden Data Channels and Mis-implementations.**  
Hongil Kim, Dongkwan Kim, Minhee Kwon, Hyungseok Han, **Yeongjin Jang**, Dongsu Han, Taesoo Kim, and Yongdae Kim.  
In *Proceedings of the 22nd ACM Conference on Computer and Communications Security (CCS)*, Denver, Colorado, October 2015.
- [29] **Preventing Use-after-free with Dangling Pointers Nullification.**  
Byoungyoung Lee, Chengyu Song, **Yeongjin Jang**, Tielei Wang, Taesoo Kim, Long Lu, and Wenke Lee.  
In *Proceedings of the 2015 Annual Network and Distributed System Security Symposium (NDSS)*, San Diego, CA, February 2015.  
\* [Won the third place award by CSAW Best Applied Research Paper Award 2015!](#)
- [30] **A11y Attacks: Exploiting Accessibility in Operating Systems.**  
**Yeongjin Jang**, Chengyu Song, Simon P. Chung, Tielei Wang, and Wenke Lee.  
In *Proceedings of the 21st ACM Conference on Computer and Communications Security (CCS)*, Scottsdale, Arizona, November 2014.
- [31] **On the Feasibility of Large-Scale Infections of iOS Devices.**  
Tielei Wang, **Yeongjin Jang**, Yizheng Chen, Pak Ho Chung, Billy Lau, and Wenke Lee.  
In *Proceedings of the 23rd USENIX Security Symposium (Security)*, San Diego, CA, August 2014.
- [32] **Mimesis Aegis: A Mimicry Privacy Shield.**  
Billy Lau, Pak Ho Chung, Chengyu Song, **Yeongjin Jang**, Wenke Lee, and Alexandra Boldyreva.  
In *Proceedings of the 23rd USENIX Security Symposium (Security)*, San Diego, CA, August 2014.
- [33] **Abusing Performance Optimization Weaknesses to Bypass ASLR.**  
Byoungyoung Lee, **Yeongjin Jang**, Tielei Wang, Chengyu Song, Long Lu, Taesoo Kim, and Wenke Lee.  
In *Black Hat USA Briefings 2014*, Las Vegas, NV, August 2014.
- [34] **Exploiting Unpatched iOS Vulnerabilities for Fun and Profit.**  
**Yeongjin Jang**, Tielei Wang, Byoungyoung Lee, and Billy Lau.  
In *Black Hat USA Briefings 2014*, Las Vegas, NV, August 2014.  
\* [Acknowledged as CVE-2014-4372!](#)
- [35] **Gyrus: A Framework for User-Intent Monitoring of Text-based Networked Applications.**  
**Yeongjin Jang**, Simon P. Chung, Bryan D. Payne, and Wenke Lee.  
In *Proceedings of the 2014 Annual Network and Distributed System Security Symposium (NDSS)*, San Diego, CA, February 2014.  
\* [Nominated as one of ten finalists in CSAW Best Applied Research Paper Award 2014.](#)
- [36] **Mactans: Injecting Malware Into iOS Devices via Malicious Chargers.**  
Billy Lau, **Yeongjin Jang**, Chengyu Song, Tielei Wang, Pak Ho Chung, and Paul Royal.  
In *Black Hat USA Briefings 2013*, Las Vegas, NV, August 2013.

## PREPRINTS AND OTHERS

- [37] **Tightly seal your sensitive pointers with pactight.**  
Mohannad Ismail, Andrew Quach, Christopher Jelesnianski, **Yeongjin Jang**, and Changwoo Min. arXiv, March 2022. doi:

10.48550/ARXIV.2203.15121. URL <https://arxiv.org/abs/2203.15121>.  
arXiv:2203.15121 [cs.CR], <https://arxiv.org/abs/2203.15121>.

- [38] **Practical privacy-preserving authentication for ssh.**  
Lawrence Roy, Stanislav Lyakhov, Yeongjin Jang, and Mike Rosulek. June 2022. URL <https://eprint.iacr.org/2022/740>.  
<https://eprint.iacr.org/2022/740>.
- [39] **Making Code Re-randomization Practical with MARDU.**  
Christopher Jelesnianski, Jinwoo Yom, Changwoo Min, and Yeongjin Jang. September 2019.  
arXiv:1909.09294 [cs.CR], <https://arxiv.org/abs/1909.09294>.
- [40] **MultiK: A Framework for Orchestrating Multiple Specialized Kernels.**  
Hsuan-Chi Kuo, Akshith Gunasekaran, Yeongjin Jang, Sibin Mohan, Rakesh B. Bobba, David Lie, and Jesse Walker.  
March 2019.  
arXiv:1903.06889 [cs.OS], <https://arxiv.org/abs/1903.06889>.
- [41] **Hardware-Supported ORAM in Effect: Practical Oblivious Search and Update on Very Large Dataset.**  
Thang Hoang, Muslum Ozgur Ozmen, Yeongjin Jang, and Attila A. Yavuz. March 2018.  
Cryptology ePrint Archive, Report 2018/247, <https://eprint.iacr.org/2018/247>.
- [42] **Building Trust in the User I/O in Computer Systems.**  
Yeongjin Jang and Ph.D. Thesis.  
Georgia Institute of Technology, August, 2017.

## GRANTED PATENTS

- [43] **Systems and Methods for Using Video for User and Message Authentication.**  
Simon Pak Ho Chung, Wenke Lee, and Yeongjin Jang. September 2017.  
*U.S. Patent*, US20170279815A1.

## MANAGED RESEARCH GRANTS

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Funding Totals: **\$9,072,640**, My Share: **\$1,295,573**.

### 1. Study on Security/Reliability Test and Evaluation Method for Secure Real-time Operating System

Collaborators: Yeongjin Jang (**PI**) and Byoungyoung Lee.  
Agency: Agency for Defense Development of South Korea  
Total U.S. Dollar Amount: **\$449,920** (My share: **\$288,692**)  
Period of Contract: 08/2018—12/2020

### 2. Research on Binary Static Analysis Technique via Concolic Testing

Collaborators: Yeongjin Jang (**PI**).  
Agency: National Security Research Institute of South Korea  
Total U.S. Dollar Amount: **\$85,000** (My share: **\$85,000**)  
Period of Contract: 03/2019—02/2020

### 3. Thwarting Memory Safety Violation by Stack Layout Randomization

Collaborators: Yeongjin Jang (**PI**).  
Agency: KAIST  
Total U.S. Dollar Amount: **\$29,484** (My share: **\$29,484**)  
Period of Contract: 01/2020—06/2021

### 4. A38 A11L.UAS.78: UAS Cyber Security and Safety Lit Review

Collaborators: Rakesh Bobba (**PI**), Yeongjin Jang (**Co-PI**), and Houssam Abbas

Agency: Federal Aviation Administration (FAA)  
 Total U.S. Dollar Amount: **\$200,000** (My share: **\$61,568**)  
 Period of Contract: 08/2020—07/2021

**5. Dynamic Risk Assessment for Nuclear Cybersecurity**

Collaborators: Camille Palmer (**PI**), Rakesh Bobba, and Yeongjin Jang (**Co-PI**)  
 Agency: Nuclear Regulatory Commission (NRC)  
 Total U.S. Dollar Amount: **\$500,000** (My share: **\$131,075**)  
 Period of Contract: 04/2021—03/2024

**6. A51 Best Engineering Practices for Automated Systems**

Collaborators: Houssam Abbas (**PI**), Rakesh Bobba, Yeongjin Jang (**Co-PI**), Jinsub Kim, and Arun Natarajan  
 Agency: Federal Aviation Administration (FAA)  
 Total U.S. Dollar Amount: **\$1,782,450** (My share: **\$233,735**)  
 Period of Contract: 08/2021—08/2024

**7. Thwarting Memory Safety Violation by Stack Layout Randomization**

Collaborators: Yeongjin Jang (**PI**)  
 Agency: KAIST  
 Total U.S. Dollar Amount: **\$33,777** (My share: **\$33,777**)  
 Period of Contract: 05/2021—04/2022

**8. Cybersecurity and STEM Research Experiences for Navy ROTC**

Collaborators: Rakesh Bobba (**PI**), Dave Nevin, and Yeongjin Jang (**Co-PI**)  
 Agency: Office of Naval Research (ONR)  
 Total U.S. Dollar Amount: **\$200,000** (My share: **\$45,748**)  
 Period of Contract: 09/2021—09/2022

**9. A58 Illustrate the Need for UAS Cybersecurity Oversight and Risk Management**

Collaborators: Rakesh Bobba (**PI**), Yeongjin Jang (**Co-PI**), and Houssam Abbas  
 Agency: Federal Aviation Administration (FAA)  
 Total U.S. Dollar Amount: **\$812,302** (My share: **\$182,066**)  
 Period of Contract: 09/2021—09/2022

**10. CyberCorps Scholarship for Service: A Clinical Rotation Approach to Professional Cybersecurity Workforce Development**

Collaborators: Rakesh Bobba (**PI**), Dave Nevin, Yeongjin Jang (**Co-PI**), and Sanghyun Hong  
 Agency: National Science Foundation (NSF)  
 Total U.S. Dollar Amount: **\$4,799,707** (My share: **\$24,428**)  
 Period of Contract: 01/2023—01/2028

**11. Vulnerability Analysis of the Secure Real-time Software Platform** (proposal approved)

Collaborators: Yeongjin Jang (**PI**)  
 Agency: Hanwha Systems  
 Total U.S. Dollar Amount: **\$180,000** (My share: **\$180,000**)  
 Period of Contract: 10/2024—03/2026

## HONORS AND AWARDS

### Academic Awards

Frontier of Science Award [20], International Congress of Basic Science (\$25,000 award)

Jul 2023

Austin Paul Engineering Faculty Award, Oregon State University	Sep 2020
2018–2019 EECS Innovative Teaching Award, Oregon State University	Jun 2019
Distinguished Paper Award [20], USENIX Security 2018	Aug 2018
Nominated as a finalist in CSAW Best Applied Research Paper Award [25]	Nov 2016
The third place award by CSAW Best Applied Research Paper Award [29]	Nov 2015
Nominated as a finalist in CSAW Best Applied Research Paper Award [35]	Nov 2014
Nominated as an RSA Security Scholar	Oct 2016
People’s Choice Award (IDForWeb [43], \$2,000 award) by IISP Demo Day Finale	Apr 2016
Best Demo Presenter Award [32] by the Marconi Society Young Scholars Symposium	Mar 2015

### Capture-the-flag (CTF) contests

#### *The DARPA Cyber Grand Challenge*

DARPA Cyber Grand Challenge Finalist, Team Disekt	Aug 2016
Qualified for DARPA Cyber Grand Challenge, Team Disekt, \$750,000 award	Jul 2015

#### *DEF CON CTF*

16th place, DEF CON 30 CTF, Team OSUSEC	Aug 2022
6th place, DEF CON 28 CTF, Team Samurai	Aug 2020
8th place, DEF CON 27 CTF, Team r00timentary	Aug 2019
<b>Winner</b> DEF CON 26 CTF <sup>1</sup> , Team DEFKOR00t	Aug 2018
3rd place, DEF CON 24 CTF, Team DEFKOR	Aug 2016
<b>Winner</b> , DEF CON 23 CTF, Team DEFKOR	Aug 2015
3rd place, DEF CON 18 CTF, Team KAIST&POSTECH)	Aug 2010
6th place, DEF CON 17 CTF, Team Song of Freedom)	Aug 2009
2nd place, DEF CON 16 oCTF, Team DDUCK)	Aug 2008

#### *NSA Codebreaker Challenge*

2nd place, The 2022 NSA Codebreaker Challenge (Oregon State University)	Jan 2023
3rd place, The 2021 NSA Codebreaker Challenge (Oregon State University)	Jan 2022
3rd place, The 2020 NSA Codebreaker Challenge (Oregon State University)	Jan 2021
3rd place, The 2019 NSA Codebreaker Challenge (Oregon State University)	Jan 2020
<b>Winner</b> , The 2018 NSA Codebreaker Challenge (Oregon State University)	Jan 2019

#### *DoE CyberForce Competition*

7th national, The Department of Energy Cyberforce Competition	Nov 2021
1st at PNNL, 6th national, The Department of Energy Cyberforce Competition	Nov 2019
1st at PNNL, 3rd national, The Department of Energy Cyberforce Competition	Dec 2018
1st at PNNL, 4th national, The Department of Energy Cyber Defense Competition	Apr 2018

### Bug Bounties

<sup>1</sup>DEF CON CTF (Capture The Flag) is the most competitive hacking contest in the world, where world best hackers are competing each other.



Authentication Bypass in Android Smart Lock (\$3,133.70) [19], Google	May 2019
Information leak in Microsoft Remote Desktop Protocol (\$10,000) [18], Microsoft	Apr 2019
Three integer overflow vulnerabilities in PHP (\$1,500) [25], the Internet Bug Bounty	Jun 2016
An Integer Overflow Vulnerability in Python zipimport (\$1,000) [25], the Internet Bug Bounty	Apr 2016
Automatic URL redirection vulnerability (\$500), Facebook	Mar 2014

### Scholarships

Scholarship for Doctoral Study, The Kwanjeong Educational Foundation (\$25,000/year for 5 years)	2010 – 2015
KAIST Undergraduate Research Program Scholarship	2008
Scholarship for Undergraduate Study, Korea Science and Engineering Foundation	2003 – 2009

## STUDENTS ADVISED

### Ph.D. Students

Ping-Jui Liao	Aug 2018 — Current
Akshith Gunaesekaran (co-advised with Prof. Rakesh Bobba)	Aug 2018 — Current

### M.S. Students

Jonathan Keller	Sep 2022 – Current
Lucas Ball	Sep 2022 – Current
Jinhong Choi	Apr 2019 — Current
Philiph Lee (returned to Ministry of the Interior and Safety)	Jan 2021 — Dec 2022
Ryan Kennedy (First job: NETSPI)	Sep 2020 – Aug 2022
Cody Holliday (First job: Jedox)	Sep 2019 – Dec 2021
Phillip Mestas III (First job: Software Enginner at Google)	Sep 2019 – Jun 2021
Hadi Rahal-Arabi (First job: Software Engineer at Intel)	Jan 2019 – Aug 2021

## TEACHING EXPERIENCE

The following is the list of courses that I taught as the head instructor, followed by the official teaching evaluation score of each. The score represented by the median of Q1/Q2 (6.0 as max), where:

Q1: The course as a whole was.

Q2: The instructor's contribution to the course was.

Cyber Attacks and Defense (CS499/579 at OSU, 50 students, 6.0/6.0)	Winter 2023
Introduction to Security (CS370 at OSU, 89 students, 5.9/6.0)	Fall 2022
Operating Systems II (CS444/544 at OSU, 193 students, 5.8/5.9)	Fall 2022
Operating Systems II (CS444/544 at OSU, 203 students, 5.9/5.8)	Fall 2021
Cyber Attacks and Defense (CS499/579 at OSU, 26 students, 5.8/5.9)	Fall 2021
Cyber Attacks and Defense (CS499/579 at OSU, 32 students, remote delivery, 5.9/5.9)	Spring 2021
Operating Systems II (CS444/544 at OSU, 199 students, remote delivery, 5.3/5.8)	Fall 2020
Operating Systems II (CS444/544 at OSU, 204 students, remote delivery, not evaluated)	Spring 2020
Cyber Security Seminar (CS 505 at OSU, 6 students, 6.0/6.0)	Winter 2020
Systems Security (CS419/579 at OSU, 22 students, 6.0/6.0)	Fall 2019
Cyber Attacks and Defense (CS419/579 at OSU, 40 students, 5.9/5.9)	Fall 2019



Operating Systems II (CS444/544 at OSU, 136 students, 5.8/5.9) ..... Spring 2019  
 Advanced Operating Systems (CS519 at OSU, 7 students, 5.8/5.8) ..... Winter 2019  
 Cyber Attacks and Defense (CS419/519 at OSU, 25 students, 5.7/5.9) ..... Fall 2018  
 Systems Security (CS419/519 at OSU, 18 students, 5.7/5.9) ..... Spring 2018  
 Cyber Attacks and Defense (CS419/519 at OSU, 19 students, 6.0/5.9) ..... Winter 2018  
 Please refer to my public teaching review scores at [RateMyProfessor.com](https://www.ratemyprofessor.com).

The followings are student testimonials extracted from the course evaluation reports:

*"This was by far one of the best courses I have taken at OSU. The course content was technically very challenging, but the lecture videos, lab tutorials, and round-the-clock help from Professor Jang and the TAs allowed me to excel in the course and actually learn the material. You can tell that he cares about his students success and understanding of the course concepts. "* [CS444/544 Operating Systems II F2020]

*"... the professor was kind, interactive and extremely helpful to our learning (as opposed to give-away-answers helpful). He ensured that each student succeeded. As the lectures had to be digital, he made video lectures, and released them to the class – these were as educational and helpful as possible, given the circumstances. "* [CS444/544 Operating Systems II S2020]

*"Dr. Jang has a great skill to explain complicated things in a simple way, so I was able to understand most of the material. The course covered a lot of material, so the knowledge we acquired was rather broad than deep, but still, I believe that the way Dr. Jang explained content was very effective, and covered many details."* [CS419/579 Systems Security F2019]

*"I definitely enjoyed the gamified course. Instant feedback. I would love a part 2 of the course with more advanced binary exploitation concepts."* [CS419/579 Cyber Attacks and Defense F2019]

*"This was easily the hardest course I took in my time at Oregon State, but with that being said I cannot understate how amazing Yeongjin was. I would take any class taught by Yeongjin due to how much you can tell he cares. It is rare for a teacher to offer a hard class and still get an ovation during the last class period."* [CS419/579 Cyber Attacks and Defense F2019]

*"The professor had great lectures that complemented the labs well. The course redesign definitely made the OS curriculum more cohesive ... Expectations were clear and students were given plenty of opportunities to excel."* [CS444/544 Operating Systems II S2019]

*"Help (in the form of asking questions and resolving code issues) from Professor Jang was quicker and more accessible more than any other professor I've had. He is very interested in his students learning."* [CS444/544 Operating Systems II S2019]

*"... His curriculum is meticulous and approachable, despite being incredibly challenging. I found myself accomplishing things I did not believe I could. Yeongjin is more than an amazing professor, he is also incredibly personable and is a friend to his students."* [CS419/519 Advanced Operating Systems W2019]

## PROFESSIONAL ACTIVITIES

### Program Committee Member

USENIX WOOT Conference on Offensive Technologies (WOOT)	2024
Annual Computer Security Applications Conference (ACSAC)	2022
USENIX Security Symposium (Security)	2021
Black Hat Asia Review Board	2021, 2022, 2023
ACM ASIA Conference on Computer and Communications Security (ASIACCS)	2018, 2019, 2020, 2021
World Conference on Information Security Applications (WISA)	2018, 2019, 2020, 2022
IEEE Silicon Valley Cybersecurity Conference (SVCC)	2023

### Organizing Committee Member

Registration Chair, ACM Computer and Communications Security (CCS)	2022
Web Chair, ACM Computer and Communications Security (CCS)	2021

### Journal Reviewer

ACM Transactions on Privacy and Security (TOPS)	2021
IEEE Transactions on Dependable and Secure Computing (TDSC)	2020, 2023
IEEE Transactions on Cloud Computing (TCC)	2019

IEEE Transactions on Information Forensics and Security (TIFS) 2017

### NSF Panel Reviewer

NSF Secure and Trustworthy Computing (SaTC) panel 2022

NSF Secure and Trustworthy Computing (SaTC) panel 2020

### External Reviewer

USENIX Annual Technical Conference (ATC) 2018

IEEE Symposium on Security and Privacy (Oakland) 2018

Network and Distributed System Security Symposium (NDSS) 2015, 2016, 2017

USENIX Security Symposium (Security) 2011, 2015, 2016, 2017

ACM Conference on Computer and Communications Security (CCS) 2014, 2015, 2016

IEEE European Symposium on Security and Privacy (EuroS&P) 2016

The Workshop on System Software for Trusted Execution (SysTEX) 2016

European Symposium on Research in Computer Security (ESORICS) 2014, 2015

ACM Symposium On Usable Privacy and Security (SOUPS) 2014

## INVITED TALKS

### How Hackers Drive Security Innovation

Presented at Samsung Security Tech Forum Seoul, South Korea, Aug 2023.

### Defeating Emerging Attacks with State-of-the-art Technologies [10, 11]

Presented at Samsung Research Seoul, South Korea, Sep 2022.

### Confidential and Private Computing using ORAM and TEE [3, 16]

Presented at National Security Research Institute Daejeon, South Korea (online), Apr 2021.

Presented at POSTECH Pohang, South Korea (online), Apr 2021.

Keynote Speech at Samsung Security Tech Forum Seoul, South Korea (online), Aug 2020.

### Efficient and Scalable Code Randomization [39]

Presented at Samsung Research Seoul, South Korea, Dec 2019.

Presented at National Security Research Institute Daejeon, South Korea, Dec 2019.

### Myths and Facts in Encryption

Presented at the 2019 Economic Summit by FI-TEAM Tigard, OR, Jan 2019.

### Myths and Facts in User Authentication

Presented at the 2018 Economic Summit by FI-TEAM Tigard, OR, Mar 2018.

### SGX-Bomb: Locking Down the Processor via Rowhammer Attack [22]

Keynote Speech at the PoC conference Seoul, South Korea, Nov 2017.

Presented at the 2nd SysTEX Workshop Shanghai, China, Oct 2017.

### Dynamic Malware Analysis Framework

Presented in Intel ISTC-ARSA Retreat at Georgia Tech Atlanta, GA, Jun 2017.

**Protecting Computing System Interactions [42]**

Seminar at the University of Virginia	Charlottesville, VA, Mar 2017.
Seminar at the University of Southern California	Los Angeles, CA, Mar 2017.
Seminar at the Pennsylvania State University	State College, PA, Mar 2017.
Seminar at Texas A&M University	College Station, TX, Mar 2017.
Seminar at Oregon State University	Corvallis, OR, Mar 2017.
Seminar at the University of Oregon	Eugene, OR, Mar 2017.
Seminar at the University of Georgia	Athens, GA, Feb 2017.
IISP Seminar at the Georgia Institute of Technology	Atlanta, GA, Feb 2017.

**Hacking in Darkness: Return-oriented Programming against Secure Enclaves [23]**

Seminar at Intel Labs	Hillsboro, OR, Feb 2017.
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**Breaking Kernel Address Space Layout Randomization with Intel TSX [24, 26]**

Presented at the 23rd ACM CCS 2016 [24]	Vienna, Austria, Oct 2016.
Presented at the Black Hat USA Briefings 2016 [26]	Las Vegas, NV, Aug 2016.

**Tying Public Key to Person with IDforWeb [43]**

Presented at the IISP Demo Day Finale 2016	Atlanta, GA, Apr 2016.
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**A11y Attacks: Exploiting Accessibility in Operating Systems [30]**

Information Security Seminar at Samsung Electronics	Suwon, South Korea, Dec 2014.
Presented at the 21st ACM CCS 2014	Scottsdale, AZ, Nov 2014.

**Security Overlay (Mimesis Aegis): A Mimicry Privacy Shield [32]**

Information Security Seminar at NCC Group	Atlanta, GA, Mar 2015.
Demonstrated at the Marconi Society Young Scholars Symposium	Atlanta, GA, Mar 2015.
Information Security Seminar at Yonsei Univesity	Seoul, South Korea, Dec 2014.

**Exploiting Unpatched iOS Vulnerabilities for Fun and Profit [34]**

IEEE Seminar at Georgia State University	Atlanta, GA, Sep 2014.
Presented at the Black Hat USA Briefings 2014	Las Vegas, NV, Aug 2014.
Information Security Seminar at Korea University	Seoul, South Korea, Jul 2014.
Information Security Seminar at KAIST	Daejeon, South Korea, Jul 2014.
Information Security Seminar at Yonsei University	Seoul, South Korea, Jul 2014.

**Gyrus: A Framework for User-Intent Monitoring of Text-based Networked Applications [35]**

Presented at the 21st NDSS	San Diego, CA, Feb 2014.
Information Security Seminar at Korea University	Seoul, South Korea, Dec 2013.
Information Security Seminar at KAIST	Daejeon, South Korea, Dec 2013.

**Mactans: Injecting Malware Into iOS Devices via Malicious Chargers [36]**

Information Security Seminar at Korea University	Seoul, South Korea, Dec 2013.
Information Security Seminar at KAIST	Daejeon, South Korea, Dec 2013.
Presented at the Black Hat USA Briefings 2013	Las Vegas, NV, Aug 2013.

**CloudCapsule: Protecting Confidential Data Using VM Check-pointing and Restore**

Presented at the 2013 DoD ASD Cyber Security SBIR Workshop

Arlington, VA, Jul 2012.

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## LIST OF REFERENCES

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