

Yuseok Jeon

ASSOCIATE PROFESSOR OF COMPUTER SCIENCE AND ENGINEERING
KOREA UNIVERSITY

EMAIL : ys_jeon@korea.ac.kr
HOMEPAGE : <https://ysjeon.net/>
LAB : <https://s2-lab.github.io/>

EDUCATION	Purdue University , West Lafayette, IN, USA <i>Ph.D. in Computer Science</i> – Advisors: Prof. Mathias Payer and Prof. Byoungyoung Lee	Aug. 2015 - Dec. 2020
	POSTECH , Pohang, South Korea <i>M.S. in Computer and Communication Engineering</i> – Advisor: Prof. Jong Kim	Feb. 2008 - Feb. 2010
	Inha University , Incheon, South Korea <i>B.S. in Computer Science and Engineering</i>	Mar. 2003 - Aug. 2007
PROFESSIONAL EXPERIENCE	Korea University , Seoul, South Korea Associate Professor, Dept. of Computer Science and Engineering	Mar. 2025 - Current
	UNIST , Ulsan, South Korea Assistant Professor, Dept. of Computer Science and Engineering	Feb. 2021 - Feb. 2025
	Purdue University , West Lafayette, IN, USA <i>Graduate Research Assistant</i> , Dept. of Computer Science	Aug. 2015 - Dec. 2020
	Intel Corporation , Hillsboro, OR, USA <i>Graduate Intern</i> , Platform Security Division	May. 2018 - Aug. 2018
	NEC Labs America , Princeton, NJ, USA <i>Research Intern</i> , Security Department	May. 2016 - Aug. 2016
	Samsung Electronics , Suwon, South Korea <i>Research Engineer</i> , Software Center	Dec. 2013 - Jun. 2015
	National Security Research Institute , Daejeon, South Korea <i>Research Engineer</i> , Cyber Technology Department	Feb. 2010 - Jun. 2013
PUBLICATIONS	[1] Intent-aware Fuzzing for Android Hardened Application Seongyun Jeong, Minseong Choi, Haehyun Cho, Seokwoo Choi, Hyungsub Kim, and Yuseok Jeon ACM Conference on Computer and Communications Security 2025 (CCS'25)	
	[2] Lightweight Concolic Testing via Path-Condition Synthesis for Deep Learning Libraries Sehoon Kim, Yonghyeon Kim, Dahyeon Park, Yuseok Jeon, Jooyong Yi, and Mijung Kim IEEE/ACM International Conference on Software Engineering 2025 (ICSE'25)	
	[3] CMASan: Custom Memory Allocator-aware Address Sanitizer Junwha Hong, Wonil Jang, Mijung Kim, Lei Yu, Yonghwi Kwon, and Yuseok Jeon IEEE Symposium on Security and Privacy 2025 (S&P'25)	
	[4] Type++: Prohibiting Type Confusion with Inline Type Information Nicolas Badoux, Flavio Toffalini, Yuseok Jeon, and Mathias Payer Network and Distributed System Security 2025 (NDSS'25)	
	[5] ERASAN: Efficient Rust Address Sanitizer Jiun Min*, Dongyeon Yu*, Seongyun Jeong, Dokyung Song, and Yuseok Jeon IEEE Symposium on Security and Privacy 2024 (S&P'24) (*: co-first author)	
	[6] On the Robustness of Graph Reduction Against GNN Backdoor Yuxuan Zhu, Michael Mandulak, Kerui Wu, George Slota, Yuseok Jeon, Ka-Ho Chow, and Lei Yu ACM Workshop on Artificial Intelligence and Security 2024 (AISec'24) in conjunction with CCS	

- [7] **DryJIN: Detecting Information Leaks in Android Applications**
Minseong Choi, Yubin Im, Steve Ko, Yonghwi Kwon, Yuseok Jeon, and Haehyun Cho
International Conference on ICT Systems Security and Privacy Protection 2024 (IFIP SEC'24)
- [8] **(Pspray: Timing Side-Channel based Linux Kernel Heap Exploitation Technique**
Yoochan Lee, Jinhan Kwak, Junesoo Kang, Yuseok Jeon, and Byoungyoung Lee
USENIX Security Symposium 2023 (SEC'23)
- [9] **DriveFuzz: Discovering Autonomous Driving Bugs through Driving Quality-Guided Fuzzing**
Seulbae Kim, Major Liu, Junghwan Rhee, Yuseok Jeon, Yonghwi Kwon, and Chung Hwan Kim
ACM Conference on Computer and Communications Security 2022 (CCS'22)
- [10] **ShadowAuth: Backward-Compatible Automatic CAN Authentication for Legacy ECUs**
Sungwoo Kim, Gisu Yeo, Taegyu Kim, Junghwan John Rhee, Yuseok Jeon, Antonio Bianchi, Dongyan Xu, and Dave (Jing) Tian
ACM ASIA Conference on Computer and Communications Security 2022 (ASIACCS'22)
- [11] **SwarmFlawFinder: Discovering and Exploiting Logic Flaws of Swarm Algorithms**
Chijung Jung, Ali Ahad, Yuseok Jeon, and Yonghwi Kwon
IEEE Symposium on Security and Privacy 2022 (S&P'22)
- [12] **Certified Malware in South Korea: A Localized Study of Breaches of Trust in Code-Signing PKI Ecosystem**
Bumjun Kwon, Sanghyun Hong, Yuseok Jeon, and Doowon Kim
International Conference on Information and Communications Security (ICICS'21)
- [13] **FuZZan: Efficient Sanitizer Metadata Design for Fuzzing**
Yuseok Jeon, Wookhyun Han, Nathan Burow, and Mathias Payer
USENIX Annual Technical Conference 2020 (ATC'20)
- [14] **PolPer: Process-Aware Restriction of Over-Privileged Setuid Calls in Legacy Applications**
Yuseok Jeon, Junghwan Rhee, Chung Hwan Kim, Zhichun Li, Mathias Payer, Byoungyoung Lee, and Zhenyu Wu
ACM Conference on Data and Application Security and Privacy 2019 (CODASPY'19)
- [15] **HexType: Efficient Detection of Type Confusion Errors for C++**
Yuseok Jeon, Priyam Biswas, Scott Carr, Byoungyoung Lee, and Mathias Payer
ACM Conference on Computer and Communications Security 2017 (CCS'17)
- [16] **TypeSan: Practical Type Confusion Detection**
Istvan Haller, Yuseok Jeon, Hui Peng, Mathias Payer, Herbert Bos, Cristiano Giuffrida, and Erik van der Kouwe
ACM Conference on Computer and Communications Security 2016 (CCS'16)
- [17] **A Distributed Monitoring Architecture for AMIs: Minimizing the Number of Monitoring Nodes and Enabling Collided Packet Recovery**
Incheol Shin, Junho Huh, Yuseok Jeon, and David M. Nicol
Smart Energy Grid Security Workshop 2013 in conjunction with CCS 2013 (SEGS'13)
- [18] **LT-OLSR: Attack-Tolerant OLSR against Link Spoofing**
Yuseok Jeon, Tae-Hyung Kim, Yuna Kim, and Jong Kim
IEEE Conference on Local Computer Networks 2012 (LCN'12) (short paper)

SERVICES

ORGANIZING COMMITTEE

- ACM Computing Surveys, Associate Editor (CSUR)
- Information Security Conference, Publications Chair (ISC'25)
- IEEE/ACIS International Conference on Software Engineering, Management and Applications, Program Chair (SERA'23)

PROGRAM COMMITTEE

- USENIX Security Symposium (SEC'26)
- Network and Distributed System Security (NDSS'26)
- USENIX Security Symposium (SEC'25)

- IEEE Symposium on Security and Privacy (**S&P'25**)
- World Conference on Information Security Applications (**WISA'25**)
- USENIX Security Symposium (**SEC'24**)
- ACM Conference on Computer and Communications Security (**CCS'24**)
- Network and Distributed System Security (**NDSS'24**)
- World Conference on Information Security Applications (**WISA'24**)
- USENIX Security Symposium (**SEC'23**)
- Network and Distributed System Security (**NDSS'23**)
- World Conference on Information Security Applications (**WISA'23**)
- The Silicon Valley Cybersecurity Conference (**SVCC'23**)
- USENIX Security Symposium (**SEC'22**)
- European Symposium on Research in Computer Security (**ESORICS'22**)
- International Symposium on Research in Attacks, Intrusions and Defenses (**RAID'22**)
- ACM Conference on Data and Application Security and Privacy (**CODASPY'22**)
- USENIX Security Symposium (**SEC'21**)
- European Symposium on Research in Computer Security (**ESORICS'21**)
- International Symposium on Research in Attacks, Intrusions and Defenses (**RAID'21**)
- ACM Conference on Data and Application Security and Privacy (**CODASPY'21**)
- Man-At-The-Middle Attacks Workshop (**CheckMATE'21**), co-located with the ACM CCS

JOURNAL REVIEWER

- IEEE Trans. on Dependable and Secure Computing
- ACM Trans. on Software Engineering and Methodology

ADVISING

CURRENT GRADUATED STUDENTS

- | | |
|---------------------------|---|
| 1. MINSEONG CHOI | (PhD Student) 2023.2 - Current |
| 2. SUNGHYUN YANG | (Master-PhD Combined) 2022.9 - Current
(Researcher) 2021.11 - 2022.8 |
| 3. JIUN MIN | (Master-PhD Combined) 2023.2 - Current
(Undergraduate Intern) 2020.12 - 2023.1 |
| 4. DONGYEON YU | (Master-PhD Combined) 2023.2 - Current
(Undergraduate Intern) 2020.12 - 2023.1 |
| 5. SUMIN YANG | (PhD Student) 2025.9 - Current
(Researcher) 2025.3 - 2025.8 |
| 6. SEONG YUN JEONG | (Master-PhD Combined) 2023.8 - Current
(Undergraduate Intern) 2021.12 - 2023.7 |
| 7. JAEEUN EOM | (Master-PhD Combined) 2024.9 - Current
(Undergraduate Intern) 2023.12 - 2024.8 |
| 8. ZEEWUNG SHIN | (Master-PhD Combined) 2024.9 - Current
(Researcher) 2024.4 - 2024.8 |
| 9. YEONJI RYU | (Master-PhD Combined) 2025.3 - Current
(Researcher) 2024.12 - 2025.2 |
| 10. INGYU JANG | (Master-PhD Combined) 2025.9 - Current
(Undergraduate Intern) 2021.5 - 2025.8 |
| 11. SEOHYEON LEE | (Master-PhD Combined) 2025.9 - Current
(Undergraduate Intern) 2022.7 - 2025.8 |

12. CHANGHEON LEE

(Master-PhD Combined) 2025.9 - Current
(Researcher) 2024.3 - 2025.8

CURRENT UNDER-GRADUATED INTERN AND RESEARCHER

13. MINKYO KIM

2024.6 - Current

14. INGEOL PARK

2025.7 - Current

PAST UNDER-GRADUATED INTERN AND RESEARCHER

15. INSUK SEO

2021.5 - 2021.11

16. GYOHUN HWANG

2020.12 - 2021.12

17. SEOHYEON LEE

2021.5 - 2021.12

18. LUONG DOAN

2021.2 - 2022.1

19. HYEONSEOK LEE

2021.5 - 2022.1

20. JUNESOO KANG

2020.12 - 2022.3

21. MINJIN KIM

2021.12 - 2022.6

22. YINAE PARK

2021.12 - 2022.6

23. ALMAS ABILKHANOV

2020.12 - 2022.6

24. MD.MAZBA UR RAHMAN

2022.5 - 2022.7

25. YECHAN PARK

2022.6 - 2022.8

26. SOYEON SIM

2021.12 - 2022.8

27. AZAMAT MYRZABEKOV

2020.12 - 2022.9

28. BAO TRUONG

2021.2 - 2022.9

29. JEONGHAN SON

2022.6 - 2022.12

30. NODIRKHUJA KHUJAEV

2020.12 - 2023.2

31. AHIN LEE

2022.6 - 2023.2

32. JOO HO SON

2021.5 - 2023.2

33. SEUNGMIN LEE

2022.7 - 2023.6

34. YONGMIN KWON

2023.7 - 2023.11

35. HYUNJU KIM

2022.12 - 2023.5

36. MINJOONG KIM

2023.2 - 2023.11

37. HYEONJU SHIN

2023.6 - 2023.12

38. CHANMIN PARK

2021.12 - 2024.1

39. YONGHUN NO

2023.12 - 2024.2

40. SEUNGBHIN PARK

2024.1 - 2024.2

41. JUNWHA HONG

2020.12 - 2024.2

42. YOUNGJIN LEE

2024.2 - 2024.9

43. YEWAN NA

2023.7 - 2025.6

44. JUYOUNG LEE

2024.6 - 2025.2

45. DONGUK KIM

2024.8 - 2025.3

46. WONIL JANG

2024.2 - 2025.6

GRADUATE COURSE ALUMNI

47. SANGHOON JUNG

(Master Student) 2022.9 - 2024.8
(Researcher) 2022.6 - 2022.8

PATENTS

- [1] **Designing a Methodology for Detection of Type Confusion during Speculative Optimization.** Yuseok Jeon, Changheon Lee. KR patent 10-2024-0177227 (Applied 12/2024)
- [2] **Method and Apparatus for Detecting Protocol Vulnerabilities based on Targets.** Yuseok Jeon, Jaeun Eom. KR patent 10-2024-0189508 (Applied 12/2024)
- [3] **Method and Apparatus for Mixed Tracker Removal based on Dynamic Analysis of Web Scripts.** Yuseok Jeon, Zee Wung Shin. KR patent 10-2024-0189486 (Applied 12/2024)
- [4] **Tracker Detection Devices, Tracker Detection Methods, and Computer Programs.** Yuseok Jeon. KR patent 10-2023-0182097 (Applied 12/2023)
- [5] **Apparatus and Method for Detecting Malware Based Android.** Yuseok Jeon, Seongyun Jeong. KR patent 10-2023-0193639 (Applied 12/2023)
- [6] **Memory Stability Determination Device, Method for Determining Stability of Memory Allocation Code by Detecting Atypical Memory Allocation Code, and Computer Program.** Yuseok Jeon. KR patent 10-2023-0174829 (Applied 12/2023)
- [7] **Program Stability Determination Device, Method for Detecting Raw Pointers and Extracting Code Associated with the Raw Pointers, and Computer Program.** Yuseok Jeon. KR patent 10-2023-0174828 (Applied 12/2023)
- [8] **Apparatus, Method and Computer Program for Testing Autonomous Driving Program.** Yuseok Jeon. KR patent 10-2023-0174827 (Applied 12/2023)
- [9] **UAF Sequence-aware Efficient Fuzzing Approach.** Yuseok Jeon. KR patent 10-2023-0196124 (Applied 12/2023)
- [10] **Memory Error Detection Apparatus and Method.** Yuseok Jeon. KR patent 10-2023-0189110 (Applied 12/2023)
- [11] **Vulnerability Detection Device, Vulnerability Detection Method and Computer Program for Rust Language.** Yuseok Jeon. KR patent 10-2023-0023155 (Applied 2/2023)
- [12] **Device and Method for Detecting Type Confusion using Memory Tagging, and Computer Program for Executing the Method.** Yuseok Jeon. KR patent 10-2022-0174184 (Applied 12/2022)
- [13] **Security Check Code Validity Check Device, Security Check Code Validity Check Method and Computer Program.** Yuseok Jeon, Ingyu Jang. KR patent 10-2022-0174191 (Applied 12/2022)
- [14] **Memory stability determination device, method for determining stability of memory allocation code by detecting atypical memory allocation code, and computer program.** Yuseok Jeon. US Patent 18/382,187 (Applied 10/2023), KR patent 10-2776614 (Granted 3/2024)
- [15] **Security Setting Device, Method of Setting Oer-process Security Policy, and Computer Program Stored in Recording Medium for Execution of the Method.** Yuseok Jeon. US Patent 18/069,801 (Applied 12/2022), KR patent 10-2630816 (Granted 01/2024)
- [16] **Blackbox Program Privilege Flow Analysis with Inferred Program Behavior Context.** Junghwan Rhee, Yuseok Jeon, Zhichun Li, Kangkook Jee, Zhenyu Wu, Guofei Jiang. US Patent 10,505,962 (Granted)
- [17] **Fine-Grained Analysis and Prevention of Invalid Privilege Transitions.** Junghwan Rhee, Yuseok Jeon, Zhichun Li, Kangkook Jee, Zhenyu Wu, Guofei Jiang. US Patent 10,402,564 (Granted)
- [18] **Automated blackbox inference of external origin user behavior.** Zhenyu Wu, Jungwhan Rhee, Yuseok Jeon, Zhichun Li, Kangkook Jee, Guofei Jiang. US Patent 10,572,661 (Granted)

TEACHING

Wireless Security: COSE484, 3 credits, 55 students	Fall 2025
Data Structure: COSE213, 3 credits, 74 students	Spring 2025
Software Security: CSE614, 3 credits, 20 students	Fall 2024
System Programming: CSE251, 3 credits, 85 students	Spring 2024
Advanced Computer Security: CSE551, 3 credits, 17 students	Fall 2023
System Programming: CSE251, 3 credits, 85 students	Spring 2023

Computer Security: CSE467, 3 credits, 41 students	Spring 2022
Advanced Computer Security: CSE551, 3 credits, 8 students	Fall 2021
Software hacking and defense: UNI204, 1 credit, 10 students	Winter 2021
Computer Security: CSE467, 3 credits, 37 students	Spring 2021
Object Oriented Programming: CSE241, 3 credits, 65 students	Fall 2020

INVITED TALKS	Automotive and Unmanned Vehicle Security Seminar, KIISC	Summer 2025
	Intensive Security Lecture Series, KIPS	Spring 2025
	HD Hyundai Security Seminar, HD Hyundai	Winter 2024
	Security Seminar for Information Security Officers of Local Governments, DIP	Winter 2024
	Improving Information Security Skills Workshop Talk, UIPA	Summer 2024
	National Security Research Institute Seminar, NSRI	Fall 2023
	Maritime Cyber Security Expert Forum, KIISC	Fall 2023
	Graduate School of Information Security Seminar, Korea University	Fall 2023
	Deagu Cybersecurity Conference, DIP	Fall 2023
	KCC Seminar, KIISC	Summer 2023
	Software Disaster Research Center Seminar, STAAR	Summer 2023
	National Security Research Institute Seminar, NSRI	Spring 2023
	Sejong Cybersecurity Workshop, Sejong University	Fall 2022
	Ulsan Science High School Talk	Summer 2022
	CS seminar, Soonchunhyang University	Spring 2022
	Graduate School of Information Security Seminar, Sungkyunkwan University	Spring 2022
	CS Seminar, Inha University	Fall 2021
	CS Seminar, Hannam University	Fall 2021
	CS Seminar, Yonsei University	Fall 2021
	CS Seminar, Soongsil University	Spring 2021
	Graduate School of Information Security Seminar, KAIST	Spring 2021
HONORS AND AWARDS	NDSS Distinguished Paper Award, 2025	
	CERIAS Diamond Award, 2020	
	Bilsland Dissertation Fellowship, 2020	
	ACM CCS travel grant, 2016.	
	Expert certification (top grade), Samsung S/W certificate, 2015.	
	19th place, Samsung S/W Programming Contest Final, 2014.	
	19th place, ACM International Collegiate Programming Contest in Asia - Seoul, 2004.	
	Top prize, National Computer Competition, South Korea, 2001.	
OPEN SOURCE CONTRIBUTION	Bronze prize, Information Technology Competition, South Korea, 2001.	
	Bronze prize, Korea Computer Competition, South Korea, 2001.	
	CMASan: Custom Memory Allocator-aware Address Sanitizer (GitHub repo)	
	Type++: Prohibiting Type Confusion with Inline Type Information (GitHub repo)	
	ERASAN: Efficient Rust Address Sanitizer (GitHub repo)	
	FuZZan: Efficient Sanitizer Metadata Design for Fuzzing (GitHub repo)	
	HexType: Efficient Detection of Type Confusion Errors for C++ (GitHub repo)	
	TypeSan: Practical Type Confusion Detection (GitHub repo)	
	Key-Manager (in Samsung Tizen OS): reducing probability of key leaking from device (GitHub repo)	

Yuseok Jeon
Department of Computer Science and Engineering
Korea University
Last update: August 30, 2025