

# Insu Yun

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Web: <https://jakkdu.github.io>

## RESEARCH INTERESTS

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Binary analysis, system security and applied cryptography.

## EDUCATION

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### Georgia Institute of Technology

Aug. 2015 –

Ph.D. in Computer Science

Advisor: Dr. Taesoo Kim

### Korea Advanced Institute of Science and Technology (KAIST)

Sep. 2008 – Feb. 2015

B.S. in Computer Science & Mathematics

## PUBLICATIONS

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- Automatic Techniques to Systematically Discover New Heap Exploitation Primitives (to appear)**  
Insu Yun, Dhaval Kapil, and Taesoo Kim  
In Proceedings of the 29th USENIX Security Symposium (Security 2020)  
Boston, MA, August, 2020
- REPT: Reverse Debugging of Failures in Deployed Software**  
Weidong Cui, Xinyang Ge, Baris Kasikci, Ben Niu, Upamanyu Sharma, Ruoyu Wang, and Insu Yun (alphabetical)  
In Proceedings of the 13th USENIX Symposium on Operating Systems Design and Implementation (OSDI 2018)  
Carlsbad, CA, October, 2018  
• Jay Lepreau Best Paper Award
- 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 2018)  
Baltimore, MD, August, 2018  
• Distinguished Paper Award
- AVPASS: Leaking and Bypassing Antivirus Detection Model Automatically**  
Jinho Jung, Chanil Jeon, Max Wolotsky, Insu Yun, and Taesoo Kim  
BlackHat USA 2017  
Las Vegas, NV, August 2017
- CAB-Fuzz: Practical Concolic Testing Techniques for COTS Operating Systems**  
Su Yong Kim, Sangho Lee, Insu Yun, Wen Xu, Byoungyoung Lee, Youngtae Yun, and Taesoo Kim  
In Proceedings of the 2017 USENIX Annual Technical Conference (ATC 2017)  
Santa Clara, CA, July 2017
- 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 2016),  
Austin, TX, August, 2016.  
• Nominated as a finalist in CSAW Best Applied Research Paper Award 2016.

## 7. HDFI: Hardware-Assisted Data-flow Isolation

Chengyu Song, Hyungon Moon, Monjur Alam, **Insu Yun**, Byoungyoung Lee, Taesoo Kim, Wenke Lee, and Yunheung Paek.

In Proceedings of the 37th IEEE Symposium on Security and Privacy (Oakland 2016),  
San Jose, CA, May, 2016.

## 8. Analyzing Security of Korean USIM-based PKI Certificate Service

Shinjo Park, Suwan Park, **Insu Yun**, Dongkwan Kim, Yongdae Kim

In Proceedings of the 15th International Workshop on Information Security Applications (WISA 2014),  
Jeju Island, Korea, Aug, 2014.

## 9. Kargus: a Highly-scalable Software-based Intrusion Detection System

Muhammad Jamshed, Jihyung Lee, Sangwoo Moon, **Insu Yun**, Deokjin Kim, Sungryoul Lee, Yung Yi, and KyoungSoo Park.

In Proceedings of The 19th ACM Conference on Computer and Communications Security (CCS 2012),  
Raleigh, NC, October, 2012.

## WORK EXPERIENCE

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**Microsoft Research**, Research Intern, Seattle, WA

May. 2017 – Aug. 2017

Contributed to REPT, a system that utilizes Intel Processor Trace to diagnose production failures

Mentor: Weidong Cui

**Georgia Tech**, Research Assistant, Atlanta, GA

Aug. 2015 –

**Korean Cyber Command**, Software Developer, Seoul, Korea

Apr. 2012 – Jan. 2014

Served for the mandatory military service

## HONORS & AWARDS

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

DEFCON 26 CTF, 1st place (Team DEFKOR00T)	Aug. 2018
DEFCON 24 CTF, 3rd place (Team DEFKOR)	Aug. 2016
DARPA Cyber Grand Challenge (Team Disekt)	Aug. 2016
DEFCON 23 CTF, 1st place (Team DEFKOR)	Aug. 2015
Whitehat contest 2014 (Team SysSec)	Nov. 2014
DEFCON 22 CTF, 10th place (Team GoN)	Aug. 2014
SECCON CTF 2014, 1st place (TOEFL Beginner)	Feb. 2014
Codegate CTF 2012, 3rd place (Team GoN)	Apr. 2012
Secuinside CTF, 3rd place (Team GoN)	Oct. 2011
ISEC CTF, 1st place (Team GoN)	Sep. 2011
DEFCON 18 CTF, 3rd place (Team GoN)	Aug. 2010
Codegate CTF 2010, 5th place (Team GoN)	Apr. 2010
KISA HDCON, Gold Medal, 2nd place (Team GoN)	May 2009
Codegate CTF 2009, 4th place (Team GoN)	Apr. 2009

### Bug Bounties

Three integer overflow vulnerabilities in PHP (\$1,500), the Internet Bug Bounty	Jun. 2016
An Integer Overflow in Python zipimport (\$1,000), the Internet Bug Bounty	Apr. 2016

### Scholarships

National Research Foundation of Korea Scholarship for Undergraduate	Mar. 2008 – Dec. 2013
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## TEACHING EXPERIENCE

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Teaching Assistant, Information Security Lab – Official (CS8803 at Georgia Tech)	Fall 2018
• Evaluation – Overall Effectiveness: 5 / 5	
Teaching Assistant, Information Security Lab – Unofficial (CS8803 at Georgia Tech)	Fall 2017
Teaching Assistant, Information Security Lab – Official (CS6265 at Georgia Tech)	Fall 2016
• Evaluation – Overall Effectiveness: 4.9 / 5	
Teaching Assistant, Information Security Lab – Unofficial (CS6265 at Georgia Tech)	Fall 2015
Head Instructor, Information Security class for freshmen (KAIST)	Mar. 2009 – Aug. 2011