Insu Yun

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Georgia Institute of Technology,
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Research Interests

Binary analysis, system security and applied cryptography.

Education

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

1. **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**

2. **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**

3. **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, Auguest 2017

4. **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

5. **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.**

6. **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.

7. **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

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

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
   Whitehat contest 2015 (Team SysSec)   Nov. 2015
   DEFCON 23 CTF, 1st place (Team DEFKOR)   Aug. 2015
   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

Teaching Experience

   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