

Dongkwan Kim

Ph.D Student

Contact

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Website

<http://0xdkay.me> (<http://0xdkay.me>)

About

Dongkwan Kim is a Ph.D student in the Department of Electrical Engineering at KAIST. He is interested in various fields of security: software, embedded device, cellular network, and sensing/actuation system. He is now working on binary analysis automation for finding bugs & generating exploits. He has been working on various embedded devices such as automobiles, smart TVs, network routers, and femtocells. He has participated in several hacking CTFs (DEFCON, Codegate, PlaidCTF, Whitehat Contest, HDCON) as a member of KAIST GoN, and now as a member of KaisHack. He holds BS and MS from KAIST in CS and EE (2014, 2016), respectively.

Profiles

Twitter

0xdkay (<https://twitter.com/0xdkay>)

Facebook

0xdkay (<https://facebook.com/0xdkay>)

Github

0xdkay (<https://github.com/0xdkay>)

Instagram

Oxdkay (<https://www.instagram.com/Oxdkay/>)

Work

Pinion Industries

2013-12-26 — 2014-02-28

Intern

Pinion Industries was a company that hacks automobiles to eliminate vulnerabilities. We exploited various components in a car including network systems, AVN, telematics, smartkey, and ECUs. Members of Pinion Industries are now working for Hyundai.

KAIST Computer Emergency Response Team (CERT)

2010-09-01 — 2012-12-31

Student Senior

Highlights

- Student Team Leader (2011. 9. 1 ~ 2012. 8. 31)

Education

KAIST

2016-03-01 — 2019-02-20

 **Electrical Engineering**
Ph.D

KAIST

2014-03-03 — 2016-02-19

 **Electrical Engineering**
Master

EURECOM

2014-06-29 – 2014-07-28

🎓 **Software and System Security**
Visiting Scholar

KAIST

2010-02-01 – 2014-02-21

🎓 **Computer Science**
Bachelor

Awards

HDCON CTF 1st Prize \$20,000 (team. maxlen)

by Minister of Science and ICT

Awarded 2017-11-30

Organized by Ministry of Science and ICT

Whitehat Contest 2017 1st Prize \$30,000 (team. Old GoatskiN)

by Minister of National Defense

Awarded 2017-11-27

Organized by Ministry of National Defense

Codegate CTF 3rd Prize \$5,000 (team. Old GoatskiN)

by President of Korea Internet & Security Agency (KISA)

Awarded 2017-04-12

Organized by Ministry of Science, ICT and Future Planning of Korea

Finalist to Defcon 24 CTF (team. KaisHack GoN)

Awarded 2016-08-05

Whitehat Contest 2014 1st Prize \$20,000 (team. Syssec)

by Director of National Intelligence Service (NIS)

Awarded 2014-11-18

Organized by Ministry of National Defense and National Intelligence Service of Korea

Finalist to Defcon 22 CTF (team. KAIST GoN)

Awarded 2014-08-08

HDCON CTF Silver Prize \$2,000 (team. GoN)

by President of Korea Internet & Security Agency (KISA)

Awarded 2013-12-04

Organized by Korea Internet & Security Agency (KISA)

Whitehat Contest 2013 1st Prize \$20,000 (team. KAIST GoN)

by Minister of National Defense

Awarded 2013-10-02

Organized by Ministry of National Defense and National Intelligence Service

Finalist to Defcon 20 CTF (team. KAIST GoN)

Awarded 2012-07-27

HDCON CTF Silver Prize \$2,000 (team. KAIST GoN)

by President of Korea Internet & Security Agency (KISA)

Awarded 2012-07-11

Organized by Korea Internet & Security Agency (KISA)

Codegate YUT CTF 3rd Prize \$5,000 (team. KAIST GoN)

by President of Korea Information Technology Research Institute (KITRI)

Awarded 2012-04-03

Organized by Ministry of Science, ICT and Future Planning of Korea

ISEC CTF 1st Prize \$10,000 (team. GoN)

by Minister of the Interior and Safety

Awarded 2011-09-21

Organized by Ministry of the Interior and Safety

PADOCON CTF 1st Prize \$1,000 (team. GoN)

Organized by PArADOx CONference (union of undergraduate hacking groups)

Awarded 2011-01-31

Publications

When Cellular Networks Met IPv6: Security Problems of Middleboxes in IPv6 Cellular Networks

2017-04-28

Published by In View publication (<http://ieeexplore.ieee.org/abstract/document/7962005/>)
Proceedings of the 2nd IEEE European Symposium on Security and Privacy (EuroS&P'17)

Pay As You Want: Bypassing Charging System in Operational Cellular Networks

2016-08-26

Published by The 17th International View publication (<pub/2016/pay/hong-wisa2016.pdf>)
Workshop on Information Security Applications (WISA'16)

Breaking and Fixing VoLTE: Exploiting Hidden Data Channels and Mis-implementations

2015-10-13

Published by In Proceedings of the View publication (<pub/2015/volte/kim-ccs2015.pdf>)
22nd ACM Conference on Computer and Communications Security (ACM CCS'15)

BurnFit: Analyzing and Exploiting Wearable Devices

2015-08-26

Published by The 16th View publication (<pub/2015/burnfit/kim-wisa2015.pdf>)
International Workshop on Information Security Applications (WISA'15)

Rocking Drones with Intentional Sound Noise on Gyroscopic Sensors

2015-08-14

Published by In ProceedingsView publication (pub/2015/rocking_drones/son-sec2015.pdf)
of the 24th USENIX Security Symposium (Usenix Security'15)

Analyzing Security of Korean USIM-based PKI Certificate Service

2014-08-26

Published by The 15th International View publication (<pub/2014/park-wisa2014.pdf>)
Workshop on Information Security Applications (WISA'14)

High-speed automatic segmentation of intravascular stent struts in optical coherence tomography images

2013-02-02

Published by **Proceedings of SPIE**

[View publication \(pub/2013/han-bios2013.pdf\)](#)

Biomedical Optics, Photonics West 2013 (BiOS'13)

High-speed automatic segmentation of intravascular stent struts in optical coherence tomography images

2012-11-16

Published by **International Forum on**

[View publication \(pub/2012/han-ifmia2012.pdf\)](#)

Medical Imaging in Asia 2012 (IFMIA'12)

Languages

Korean

Native speaker

English

Foreign language

Interests

Software Security

- Fuzzing
- Automatic Exploit Generation

Cyber-Physical System Security

- Medical Device
- Automobile
- GPS
- Smart Meter
- Drone

Cellular Network Security

- Location Privacy
- Accounting
- Control Plane
- Baseband Exploit

References