

Geumhwan CHO

PERSONAL DATA

GENDER: Male
CITIZENSHIP: South Korea
ADDRESS: Sungkyunkwan University, Suwon, Republic of Korea
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STATUS

SEPTEMBER 2014 – *present*
PhD Candidate in Department of Computer Science and Engineering,
College of Information and Communication Engineering, Sungkyunkwan University
Supervisor: Prof. Hyoungshick Kim

EDUCATION

2011.3–2013.2 **M.S.** in DEPARTMENT OF COMPUTER ENGINEERING,
Kyung Hee University, Korea
Supervisor: Prof. Sungyoung Lee
Thesis: Activity Recognition and Energy-Efficient Optimization based on
Accelerometer Sensor in Smartphone Environment

2004.3–2011.2 **B.S.** in DEPARTMENT OF COMMUNICATION ENGINEERING,
Cheongju University, Korea
Supervisor: Prof. Nam-Soo Kim

RESEARCH INTERESTS

Usable security
User privacy
User authentication
Mobile security

EXPERIENCE

- **2014.9–present:** Department of Computer Science and Engineering, College of Information and Communication Engineering, Sungkyunkwan University, Korea
PhD Candidate – Security Engineering Laboratory
- **2011.3–2013.2:** Department of Computer Engineering, College of Electronics and Information, Kyung Hee University, Korea
Master Candidate – Ubiquitous Computing Laboratory

APPOINTMENTS

- 2015: Member of Organizing Committee In International Conference on Software Security and Assurance (ICSSA)

AWARDS AND GRANTS

- 2017: NAVER Ph.D. Fellowship Award

TECHNICAL/SPECIAL SKILLS

OS: Windows and Linux (Ubuntu)

Programming: C and Python

Simulation and Math package: Matlab and R

Languages: English and Korean (native language)

PUBLICATIONS

- **Refereed Publications**

- Sangwon Hyun, Junsung Cho, **Geumhwan Cho** and Hyounghshick Kim, "Design and Analysis of Push Notification-Based Malware on Android", Security and Communication Networks, 2018. (accepted)
- DaeHun Nyang, Hyounghshick Kim, Woojoo Lee, Sung-bae Kang, **Geumhwan Cho**, Mun-Kyu Lee and Aziz Mohaisen, "Two-Thumbs-Up: Physical Protection for PIN Entry Secure against Recording Attacks", Computers & Security, Volume 78, Pages 1-15, September 2018.
- Ian Oakley, Jun Ho Huh, Junsung Cho, **Geumhwan Cho**, MD. Rasel Islam and Hyounghshick Kim, "The Personal Identification Chord: A Four Button Authentication System for Smartwatches", ASIACCS: The 11th ACM Asia Conference on Computer and Communications Security, Incheon, Korea, 2018 (acceptance rate: 52/310 = 17%).
- Junsung Cho, **Geumhwan Cho**, Sangwon Hyun and Hyounghshick Kim, "Open Sesame! Design and Implementation of Backdoor to Secretly Unlock Android Devices", MobiSec: The 2nd International Symposium on Mobile Internet Security, Jeju Island, Korea, 2017.
- Soyoung Kim, Sora Lee, **Geumhwan Cho**, Muhammad Ejaz Ahmed, Jaehoon Paul Jeong and Hyounghshick Kim, "Preventing DNS amplification attacks using the history of DNS queries with SDN", ESORICS: The 22nd European Symposium on Research in Computer Security, Oslo, Norway, 2017 (acceptance rate: 54/339 = 16%).
- **Geumhwan Cho**, Jun Ho Huh, Junsung Cho, Seongyeol Oh, Youngbae Song and Hyounghshick Kim, "SysPal: System-guided Pattern Locks on Android", S&P: The 38th IEEE Symposium on Security and Privacy, San Jose, USA, 2017 (acceptance rate: 60/419 = 14.3%).
- Junsung Cho, **Geumhwan Cho**, Sangwon Hyun and Hyounghshick Kim, "Design of Backdoor on Android Devices", S&P: The 38th IEEE Symposium on Security and Privacy (Poster), San Jose, USA, 2017.
- Seunghun Cha, Jaewoo Park, **Geumhwan Cho**, Jun Ho Huh and Hyounghshick Kim, "WiPING: Wi-Fi signal-based PIN Guessing attac", CCS: The 23rd ACM Conference on Computer and Communications Security (Poster), Vienna, Austria, 2016.

- **Geumhwan Cho**, Junsung Cho, Youngbae Song, Donghyun Choi and Hyoungshick Kim, “Combating online fraud attacks in mobile-based advertising”, EURASIP Journal on Information Security, Vol. 2016(1), 2016.
 - **Geumhwan Cho**, Junsung Cho, Youngbae Song and Hyoungshick Kim, “An empirical study of click fraud in mobile advertising networks”, IWCC: The 4th Workshop on Cyber Crime held in conjunction with ARES, Toulouse, France, 2015.
 - Junsung Cho, **Geumhwan Cho** and Hyoungshick Kim, “Keyboard or Keylogger?: a security analysis of third-party keyboards on Android”, PST: The 13rd International Conference on Privacy, Security and Trust, Izmir, Turkey, 2015.
 - Youngbae Song, **Geumhwan Cho**, Seongyeol Oh, Hyoungshick Kim and Jun Ho Huh, “On the Effectiveness of Pattern Lock Strength Meters – Measuring the Strength of Real World Pattern Locks”, CHI: The 33rd ACM SIGCHI Conference on Human Factors in Computing Systems, Seoul, Korea, 2015 (acceptance rate: 565/2435 = 23%).
 - Jaehoon Jeong, Jihyeok Seo, **Geumhwan Cho**, Hyoungshick Kim and Jung-Soo Park, “A Framework for Security Services Based on Software-Defined Networking”, DC2: The 2nd Workshop on Device Centric Cloud held in conjunction with IEEE AINA, Gwangju, Korea, 2015.
- **Patents**
 - **Geumhwan Cho**, Junsung Cho, Hyoungshick Kim, “METHOD, APPARATUS, AND SYSTEM FOR AUTOMATICALLY GENERATING RULE FOR DETECTING VIRUS CODE, AND COMPUTER READABLE RECORDING MEDIUM FOR RECIRING THE SAME”, Korea Patent (10-2017-0024455), Feb. 2017.
 - **Geumhwan Cho**, Seongyeol Oh, Youngbae Song, Jun Ho Huh and Hyoungshick Kim, “Pattern generating method for pattern lock”, Korea Patent (10-2016-0114369), Sep. 2016.
 - Tai-Myoung Chung, Hyoungshick Kim, KIM, Nam-Uk Kim, Jun-Kwon Jung, **Geumhwan Cho** and Youngbae Song, “Cyber inspection system and method using SDN”, Korea Patent (10-2015-0000), Dec. 2015.

REFERENCES

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