

Hyounghshick Kim

CONTACT INFORMATION	Department of Software College of Software Sungkyunkwan University, Suwon, Korea	office: +82 31 299 4324 mobile: +82 10 5557 3081 e-mail: hyoung@skku.edu
RESEARCH INTERESTS	Information security, usable security, user authentication, user privacy and social network analysis	
EDUCATION	Ph.D Computer Laboratory, University of Cambridge, UK, 2008–2011 <ul style="list-style-type: none">• Supervisor: Prof. Ross Anderson• Thesis: Complex network analysis for secure and robust communications (Examiners – Prof. Jon Crowcroft and Prof. Alessandro Acquisti) M.S. Division of Computer Science, KAIST, Korea, 1999–2001 <ul style="list-style-type: none">• Supervisor: Prof. Kyung-Yong Chwa• Thesis: A Distributed Algorithm for Maintaining a Minimum Spanning Tree in Dynamic Network B.S. Department of Information Engineering, Sungkyunkwan University, Korea, 1995–1999 <ul style="list-style-type: none">• Supervisor: Prof. Youngik Eom• Thesis: Distributed Mutual Exclusion Algorithm for Maintaining Tree-Height Balance in Mobile Computing Environments	
PROFESSIONAL EXPERIENCE	Sungkyunkwan University , Suwon, Korea <i>Assistant Professor</i> – Security Engineering Laboratory 2013–present <ul style="list-style-type: none">• Is researching security engineering. University of British Columbia , Vancouver, BC, Canada <i>Postdoctoral Fellow</i> – Laboratory for Education and Research in Secure Systems Engineering 2012 <ul style="list-style-type: none">• Researched human authentication and information diffusion in online social networks. Samsung Electronics , Digital Media R&D Center, Suwon, Korea <i>Senior Engineer</i> – Core S/W Component Laboratory 2008 <ul style="list-style-type: none">• Designed and developed DRM applications for home networks. Samsung Electronics , Software Laboratories, Seoul/Suwon, Korea <i>Engineer/Senior Engineer</i> – Home Software Platform Team 2004–2007 <ul style="list-style-type: none">• Designed and developed DRM interoperability solutions (DLNA and Coral).	
TEACHING	Lecturer , Sungkyunwan University: Computer Security (2017) Lecturer , Sungkyunwan University: Special Topics in Computer Science (2017) Lecturer , Sungkyunwan University: Security Engineering (2013–2016) Lecturer , Sungkyunwan University: Basic Programming Languages (2015–2016) Lecturer , Yonsei University: Database Security (2015–2017) Lecturer , Sungkyunwan University: Basis and Practice in Programming (2015) Lecturer , Sungkyunwan University: Data Structures (2014–2017) Lecturer , Sungkyunwan University: Introduction to Information and Communication Engineering (2013) Lecturer , Sungkyunwan University: Engineering Computer Programming (2013–2014) Organizer , Sungkyunwan University: Freshmen Seminar (2013) Guest Lecturer , University of British Columbia: Computer Security (2012) Course Supervisor , University of Cambridge: Part II Projects (2010–2011), Computer Security (2009–2010), Algorithm (2010), Bioinformatics (2009) and Database (2009) Teaching Assistant , KAIST: Problem Solving (2002), Algorithm (2000–2002), Graph Theory (2001) and Data Structures (1999)	

Appointments

Technical Consultant at Samsung Electronics 2013–2017

Program Committee Member

ACM Asia Conference on Computer & Communications Security 2018
 International Conference on Availability, Reliability and Security 2018
 International Conference on Advanced and Trusted Computing 2016–2017
 ACM/SIGAPP Symposium on Applied Computing 2016–2018
 International Conference on Ubiquitous Information Management and Communication 2016–2018
 International Workshop on Cyber Crime 2016
 Workshop on Security in Software Defined Networks & Network Function Virtualization 2016
 International Symposium on Foundations and Practices of Security 2012–2017
 International Workshop on Simplifying Complex Networks for Practitioners 2014–2015

Chair

Asia Joint Conference on Information Security 2017
 International Conference on Software Security and Assurance 2015–2016
 International Workshop on Simplifying Complex Networks for Practitioners 2014

Editorial Board Member

IEEE Consumer Electronics Magazine 2015–Present
 KSII Transactions on Internet and Information Systems 2017–Present
 International Journal of Privacy and Health Information Management 2012–Present
 International Journal of Computer & Software Engineering 2016–Present

HONOURS AND
AWARDS

The best impacts, joint award, IEEE Consumer Electronics Magazine 2017
 The award for research excellence, Sungkyunkwan University 2017
 The award for research excellence, Sungkyunkwan University 2016
 The runner-up award, ICSSA 2016 2016
 The best paper award, CISC 2016 2016
 The Korean Ministry of Interior award for research excellence, NETSEC-KR 2016 2016
 The best paper award, DC2 2016 2016
 The best student paper award, ICCSA 2015 2015
 The best paper award, DC2 2015 2015
 The best paper award, WISA 2014 2014
 The runner-up award, SIMPEX 2014 2014
 The 2nd place winner of the Facebook Hackathon, University of British Columbia 2012
 NSERC Postdoctoral Fellowship Award, NSERC ISSNNet 2012–2013
 Research Studentship, Northrop Grumman Corporation 2010–2011
 Silver Medal in Samsung Electronics Annual Award, Samsung Electronics 2007
 KAIST Scholarship, Ministry of Science and Technology 1999–2001
 Scholarship for Outstanding Academic Achievement, Sungkyunkwan University, 1997–1998

SELECTED
PUBLICATIONS

Sangwon Hyun, Jinyoung Kim, **Hyoungshick Kim**, Jaehoon Jeong, Susan Hares, Linda Dunbar and Adrian Farrel, “Interface to Network Security Functions for Cloud-based Security Services”, *IEEE Communications Magazine*, 2018.

Muhammad Ejaz Ahmed, **Hyoungshick Kim** and Moosung Park, “Mitigating DNS Query-Based DDoS Attacks with Machine Learning on Software-Defined Networking”, *MILCOM: The 36th IEEE Military Communications Conference*, 2017.

Soyoung Kim, Sora Lee, Geumhwan Cho, Muhammad Ejaz Ahmed, Jaehoon Paul Jeong and **Hyoungshick Kim**, “Preventing DNS amplification attacks using the history of DNS queries with SDN”, *ESORICS: The 22nd European Symposium on Research in Computer Security*, 2017.

Jong-Hyouk Lee and **Hyoungshick Kim**, “Security and Privacy Challenges in the Internet of Things”, *IEEE Consumer Electronics Magazine* (selected as Best Impacts, Joint Award), 2017.

Geumhwan Cho, Jun Ho Huh, Junsung Cho, Seongyeol Oh, Youngbae Song and **Hyoungshick Kim**, “SysPal: System-guided Pattern Locks for Android”, *S&P: The 38th IEEE Symposium on Security and Privacy*, 2017.

Jun Ho Huh, **Hyoungshick Kim**, Rakesh B. Bobba, Konstantin Beznosov and Swathi Sri V Rayala, “I’m too busy to reset my LinkedIn password: On the effectiveness of password reset emails”, *CHI: The 35th ACM SIGCHI Conference on Human Factors in Computing Systems*, 2017.

Seunghun Cha, Sungsu Kwag, **Hyoungshick Kim** and Jun Ho Huh, “Boosting the Guessing Attack Performance on Android Lock Patterns with Smudge Attacks”, *ASIACCS: The 10th ACM Asia Conference on Computer and Communications Security*, 2017.

Junsung Cho, Jaegwan Yu, Sanghak Oh, Jungwoo Ryoo, Jaeseung Song and **Hyoungshick Kim**, “Wrong Siren! A location spoofing attack on indoor positioning systems: the Starbucks case study”, *IEEE Communications Magazine*, 2017.

Jun Ho Huh, Saurabh Verma, Swathi Sri V Rayala, Rakesh Bobba, Konstantin Beznosov and **Hyoungshick Kim**, “I Don’t Use Apple Pay Because Its Less Secure : Perception of Security and Usability in Mobile Tap-and-Pay”, *USEC: The 5th Usable Security Conference*, 2017.

Youngbae Song, **Hyoungshick Kim** and Jun Ho Huh, “On the Guessability of Resident Registration Numbers in South Korea”, *ACISP: The 21st Australasian Conference on Information Security and Privacy*, 2016.

Andrea Bianchi, Ian Oakley and **Hyoungshick Kim**, “PassBYOP: Bring Your Own Picture for Securing Graphical Passwords”, *IEEE Transactions on Human-Machine Systems*, 2016.

Eunjo Lee, Jiyoung Woo, **Hyoungshick Kim**, Aziz Mohaisen and Huy Kang Kim, “You are a Game Bot!: Uncovering game bots in MMORPGs via self-similarity in the wild”, *NDSS: The 23rd Network and Distributed System Security Symposium*, 2016.

Jun Ho Huh, Seongyeol Oh, **Hyoungshick Kim**, Konstantin Beznosov, Apurva Mohan, and S. Raj Rajagopalan, “Surpass: System-initiated user-replaceable passwords”, *CCS: The 22nd ACM Conference on Computer and Communications Security*, 2015.

Jun Ho Huh, **Hyoungshick Kim**, Rakesh B. Bobba, Masooda Bashir and Konstantin Beznosov, “On the Memorability of System-generated PINs: Can Chunking Help?”, *SOUPS: The 11st Symposium On Usable Privacy and Security*, 2015.

Jaeseung Song, **Hyoungshick Kim** and Soojin Park, “Enhancing Conformance Testing using Symbolic Execution for Network Protocols”, *IEEE Transactions on Reliability*, 2015.

Eunhyun Kim, Kyung-won Park, **Hyoungshick Kim** and Jaeseung Song, “Design and analysis of enumeration attacks on finding friends with phone numbers: a case study with KakaoTalk”, *Computers & Security*, 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*, 2015.

Eunhyun Kim, Kyung-won Park, **Hyoungshick Kim** and Jaeseung Song, “I’ve Got Your Number: Harvesting users personal data via contacts sync for the KakaoTalk messenger”, *WISA: The 15th International Workshop on Information Security Applications* (Selected as best paper), 2014.

Hyoungshick Kim, Konstantin Beznosov and Eiko Yoneki, “Finding Influential Neighbors to Maximize Information Diffusion in Twitter”, *SIMPLEX: The 6th Annual Workshop on Simplifying Complex Networks for Practitioners* (Selected as runner-up), 2014.

Hyoungshick Kim and Ross Anderson, “An Experimental Evaluation of Robustness of Networks”, *IEEE Systems Journal*, Vol. 7(2), 2013.

Antoine Boutet, **Hyounghshick Kim** and Eiko Yoneki, “What’s in Twitter: I Know What Parties are Popular and Who You are Supporting Now!”, *ASONAM: The 4th IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining*, 2012.

Hyounghshick Kim, Jon Crowcroft and Fernando M.V. Ramos, “Efficient Channel Selection Using Hierarchical Clustering”, *WoWMoM: The 13th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks*, 2012.

John Tang, **Hyounghshick Kim**, Cecilia Mascolo and Mirco Musolesi, “STOP: Socio-Temporal Opportunistic Patching of Short Range Mobile Malware”, *WoWMoM: The 13th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks*, 2012.

Antoine Boutet, **Hyounghshick Kim** and Eiko Yoneki, “Whats in Your Tweets? I Know Who You Supported in the UK 2010 General Election”, *ICWSM: The 6th International AAAI Conference on Weblogs and Social Media*, 2012.

Hyounghshick Kim and Jun Ho Huh, “PIN selection policies: are they really effective”, *Computers & Security*, Vol. 31(4), 2012.

Hyounghshick Kim, John Tang and Ross Anderson, “Social Authentication: Harder than it Looks”, *FC: The 16th IFCA International Conference on Financial Cryptography and Data Security*, 2012.

Hyounghshick Kim, John Tang, Ross Anderson and Cecillia Mascolo, “Centrality Prediction in Dynamic Human Contact Networks”, *Computer Networks*, Vol. 56(3), 2012.

Hyounghshick Kim and Ross Anderson, “Temporal Node Centrality in Complex Networks”, *Physical Review E*, Vol. 85(2), 2012.

Hyounghshick Kim, Ji Won Yoon and Jon Crowcroft, “Network Analysis of Temporal Trends in Scholarly Research Productivity”, *Journal of Informetrics*, Vol. 6(1), 2012.

Hyounghshick Kim and Jaehoon Jeong, “RAD: Recipient-Anonymous Data Delivery based on Public Routing Proxies”, *Computer Networks*, Vol. 55(15), 2011.

Hyounghshick Kim and Jun Ho Huh, “Detecting DNS Poisoning Based Phishing Attacks from their Network Performance Characteristics”, *Electronics Letters* (Selected as a highlight), Vol. 47(11), 2011.

Ji Won Yoon, **Hyounghshick Kim** and Jun Ho Huh, “Hybrid Spam Filtering for Mobile Communication”, *Computers & Security*, Vol. 29(4), 2010.

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PATENTS

Bogyeong Kang, **Hyounghshick Kim**, Youngbae Song, Jin-A Kang, Jung-Je Son and Duckey Lee, “Method and apparatus for supporting login through user terminal”, *US Patent* (9602506B2), 2017.

Seong-Ho Cho and **Hyounghshick Kim**, “Authentication information management method in home network and an apparatus therefor”, *EP Patent* (2264940B1), 2016.

Hyounghshick Kim and S. Jae Oh, “Method of and Apparatus for Sharing Secret Information between Devices in Home Network”, *US Patent* (9094192), 2015.

Wonseok Kwon and **Hyounghshick Kim**, “Digital rights management method and apparatus”, *US Patent* (8931104), 2015.

Hyounghshick Kim, “Method and System for Providing DRM License”, *US Patent* (8805742), 2014.

Hyounghshick Kim, Seongho Cho, Ho-Yeon Park, Dongshin Jung and Wonseok Kwon, “Method and apparatus for generating a mashup graph, and method and apparatus for recommending mashup services”, *US Patent* (8813102), 2014.

Hyounghshick Kim and Myungsoo Chang, “Method and apparatus for providing content service”, *US Patent* (8582759), 2013.

Hyounghshick Kim and Sanghyeon Kim, “Apparatus and Method for Providing Domain Information”, *US Patent* (8526445), 2013.

Hyounghshick Kim and Joo-yeol Lee, “Method and apparatus of ensuring security of communication in home network”, *US Patent* (8464055), 2013.

Seong-Ho Cho and **Hyounghshick Kim**, “Method and apparatus for managing authentication information in home network”, *US Patent* (8347079), 2013.

Hyounghshick Kim, Kyung-mo Park and Myungsoo Chang, “Device and method for providing video stream having integrity”, *US Patent* (8185742), 2012.

Hyounghshick Kim, “Method and system for providing DRM license”, *US Patent* (8103593), 2012.

Kyung-mo Park, S. Jae Oh, **Hyoungshick Kim** and Yungsun Ryu, "Apparatus and Method for Providing Security Service in Home Network", *US Patent* (8060739), 2011.

Hyoungshick Kim, Myungsoo Chang and Sanghyeon Kim, "Method and apparatus for providing content service", *US Patent* (8019080), 2011.

Hyoungshick Kim, "Method and apparatus for electronic commerce using digital ticket to provide anonymity" *US Patent* (7730314), 2010.

REFEREES

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