

Hyounghshick Kim

CONTACT INFORMATION	Department of Computer Science and Engineering College of Information and Communication Engineering Sungkyunkwan University, Suwon, Korea	office: +82 31 299 4324 mobile: +82 10 5557 3081 e-mail: hyoung@skku.edu
RESEARCH INTERESTS	Information security, social network analysis, human authentication, anonymous communication, usable security and human behaviour	
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.• Participated in the development of DRM interoperability standards (DLNA CPS, Coral and Long Pura).	
TEACHING	Lecturer , Sungkyunwan University: Security Engineering (2013–2016) Lecturer , Sungkyunwan University: Basic Programming Languages (2015–2016) Lecturer , Yonsei University: Database Security (2015–2016) Lecturer , Sungkyunwan University: Basis and Practice in Programming (2015) Lecturer , Sungkyunwan University: Data Structures (2014–2016) 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)	

ACADEMIC
SERVICES

Program Committee Member

International Conference on Complexity, Future Information Systems and Risk	2017
International Conference on Information Science and Security	2016
Workshop on Hot Topics in Internet-of-Things	2016
International Conference on Advanced and Trusted Computing	2016
International Workshop on Cyber Crime	2016
Workshop on Security in Software Defined Networks & Network Function Virtualization	2016
Symposium on Applied Computing (Track on Social Network and Media Analysis)	2016–2017
International Conference on Ubiquitous Information Management and Communication	2016–2017
Workshop on Complex Networks and their Applications	2012–2016
International Symposium on Foundations and Practices of Security	2012–2015
International Workshop on Simplifying Complex Networks for Practitioners	2014–2015
International Workshop on Information Security Applications	2014–2015

Co-chair

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
International Journal of Privacy and Health Information Management	2012–Present
International Journal of Computer & Software Engineering	2016–Present

HONOURS AND
AWARDS

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 ISSNet	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

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, **Hyounghick 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, **Hyounghick 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, **Hyounghick Kim** and Soojin Park, “Enhancing Conformance Testing using Symbolic Execution for Network Protocols”, *IEEE Transactions on Reliability*, 2015.
- Eunhyun Kim, Kyung-won Park, **Hyounghick Kim** and Jaeseung Song, “Design and analysis of enumeration attacks on finding friends with phone numbers: a case study with KakaoTalk”, *Computers & Security*, 2015.
- Seongyeol Oh, Joon-Sung Yang, Andrea Bianchi and **Hyounghick Kim**, “Devil in a Box: Installing Backdoors in Electronic Door Locks”, *PST: The 13rd International Conference on Privacy, Security and Trust*, 2015.
- Junsung Cho, Geumhwan Cho and **Hyounghick Kim**, “Keyboard or Keylogger?: a security analysis of third-party keyboards on Android”, *PST: The 13rd International Conference on Privacy, Security and Trust*, 2015.
- Jiwon Yoon, **Hyounghick Kim**, Hyunjo Jo, Hyelim Lee and Kwangsu Lee, “Visual Honey Encryption: Application to steganography”, *IH & MMSec: The 3rd ACM Workshop on Information Hiding and Multimedia Security*, 2015.
- Youngbae Song, Geumhwan Cho, Seongyeol Oh, **Hyounghick 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, **Hyounghick 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.
- Hyounghick 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.
- Hyounghick Kim** and Jaeseung Song, “Social network analysis of patent infringement lawsuits”, *Technological Forecasting & Social Change*, Vol. 80(5), 2013.
- Hyounghick Kim** and Ross Anderson, “An Experimental Evaluation of Robustness of Networks”, *IEEE Systems Journal*, Vol. 7(2), 2013.
- Antoine Boutet, **Hyounghick 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.
- Hyounghick Kim** and Eiko Yoneki, “Influential Neighbours Selection for Information Diffusion in Online Social Networks”, *ICCCN: The 21st IEEE International Conference on Computer Communication Networks*, 2012.
- Hyounghick 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, **Hyounghick 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, **Hyounghick 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.
- Hyounghick Kim** and Jun Ho Huh, “PIN selection policies: are they really effective”, *Computers & Security*, Vol. 31(4), 2012.
- Hyounghick 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.
- Hyounghick Kim**, John Tang, Ross Anderson and Cecilia Mascolo, “Centrality Prediction in Dynamic Human Contact Networks”, *Computer Networks*, Vol. 56(3), 2012.

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

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

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

Hyounghick 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 and **Hyounghick Kim**, “A Perfect Collision-free Pseudonym System”, *IEEE Communications Letters*, Vol. 15(6), 2011.

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

SELECTED
PATENTS

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

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

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

Hyounghick 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.

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

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

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

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

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

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

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

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

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

REFEREES

Professor Ross Anderson

Professor
University of Cambridge
Cambridge, UK
e-mail: *Available Upon Request*
phone: *Available Upon Request*

Professor Konstantin Beznosov

Associate Professor
University of British Columbia
Vancouver, BC, Canada
e-mail: *Available Upon Request*
phone: *Available Upon Request*

Dr. Hyun-Jin Choi

Principal Research Engineer
Samsung Electronics
Suwon, Korea
e-mail: *Available Upon Request*
phone: *Available Upon Request*

Professor Jon Crowcroft

Professor
University of Cambridge
Cambridge, UK
e-mail: *Available Upon Request*
phone: *Available Upon Request*

Dr. Eiko Yoneki

Researcher
University of Cambridge
Cambridge, UK
e-mail: *Available Upon Request*
phone: *Available Upon Request*