

# Hyeonmin Lee

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## CV

**PERSONAL INFORMATION** **Email:** hmlee@mmlab.snu.ac.kr  
**Address:** Network Convergence and Security Lab., 5F, Building 301, 1, Gwankak-ro, Gwanak-gu, Seoul, Republic of Korea  
**Hompag:** <https://hyeonmin-lee.github.io/>

**OBJECTIVE** I'm a Ph.D. student in the Department of Computer Science and Engineering at Seoul National University. (*Advisor: Prof. Taekyoung "Ted" Kwon*)  
My research interests focus on network security and network measurement: Are we using the network correctly and safely (especially, about security protocols)? How can we make the network (more) safely?

**EDUCATION** **Mar. 2016 - Feb. 2022**  
M.S./Ph.D. Integrated Course in Dept. of Computer Science and Engineering, Seoul National University, Seoul, Republic of Korea  
(Advised by Prof. Taekyoung "Ted" Kwon)  
**Mar. 2011 - Feb. 2016**  
B.S. in Dept. of Computer Science and Engineering, Seoul National University, Seoul, Republic of Korea  
**Fall 2014 (1 term)**  
Visiting Student at Dept. of Information Technology, Uppsala University, Uppsala, Sweden

## PUBLICATIONS ☐ Conference

**Under the Hood of DANE Mismanagement in SMTP (*to appear*)**  
**Hyeonmin Lee**, Md. Ishtiaq Ashiq, Moritz Müller, Roland van Rijswijk-Deij, Taekyoung "Ted" Kwon, Taejoong Chung  
In Proceedings of the USENIX Security Symposium (**USENIX Security**), Boston, United States, Aug. 2022

**A Longitudinal and Comprehensive Study of the DANE Ecosystem in Email**  
**Hyeonmin Lee**, Aniketh Gireesh, Roland van Rijswijk-Deij, Taekyoung "Ted" Kwon, Taejoong Chung  
In Proceedings of the USENIX Security Symposium (**USENIX Security**), Boston, United States, Aug. 2020

**Development of Cellular Core Network Enabling Network Function Virtualization**  
**Hyeonmin Lee**, Junghwan Song  
The 28th Joint Conference on Communication and Information (**JCCI**), Yeosu, Korea, May. 2018

## ☐ Journal

**TwinPeaks: An Approach for Certificateless Public Key Distribution for the Internet and Internet of Things**  
Eunsang Cho, Jeongnyeo Kim, Minkyung Park, **Hyeonmin Lee**, Chorom Hamm,

Soobin Park, Sungmin Sohn, Minhyeok Kang, Ted “Taekyoung” Kwon  
Elsevier Computer Networks (SCI-E)

## **RESEARCH PROJECTS**

### **Research on Traceability for Data Stability on Cloud-edge Lifecycle**

Apr. 2020 - Present

Supported Institute for Information and Communication Technology Promotion (IITP)

*Researcher / Programmer*

### **Abnormal Detection and Forensic Techniques using IoT Network Traffic Analysis**

Mar. 2021 - Nov. 2021

Korea Institute of Information Security & Cryptology (KIISC)

*Project Manager (Lab.) / Researcher / Programmer*

### **Versatile Network System Architecture for Multi-dimensional Diversity**

Apr. 2016 - Dec. 2020

Supported Institute for Information and Communication Technology Promotion (IITP)

*Project Manager (Lab.) / System Designer / Programmer*

### **Research on GPU Acceleration for Fully Homomorphic Encryption**

Feb. 2020 - Nov. 2020

Korea Institute of Information Security & Cryptology (KIISC)

*Programmer*

### **Developing High-performance Programming Environments and Computing Systems**

Sep. 2019 - Apr. 2020

Supported by National Research Foundation of Korea (NRF)

*Programmer*

### **Research on Distributed Web Structure and Counterplan**

Aug. 2019 - Nov. 2019

Supported by Korea Internet and Security Agency (KISA)

*Researcher*

### **Research on Trust and Security Scheme for Interconnection of Heterogeneous Networks**

Sep. 2018 - Nov. 2018

Supported Electronics and Telecommunications Research Institute (ETRI)

*Researcher*

### **Research and Development of Open 5G Reference Model**

Aug. 2016 - Feb. 2019

Supported by Giga KOREA Foundation

*System Designer / Programmer*

### **Content Delivery Framework Using Spatial and Temporal Dynamics in Mobile Networks**

Mar. 2016 - May. 2016

Supported by National Research Foundation of Korea (NRF)

*Programmer*

### **Development of Network Security Acceleration for Next-generation Low-power SoC**

Jul. 2015 - Dec. 2015  
Supported by Samsung Electronics  
*Programmer*

## **PATENTS**

**Network System and Method for Performing Message Security Thereof**  
Registration No. 1022656110000  
Republic of Korea, Jun. 10, 2021

**Communication Method Based on Integrated Flat ID and System**  
Registration No. 1020231150000  
Republic of Korea, Sep. 11, 2019

## **EXPERIENCE**

**Internship** May. 2019 - Aug. 2019  
The Center for Cybersecurity, Rochester Institute of Technology  
Rochester, USA  
– Topic: Measuring and analyzing ecosystem of DANE protocol in Email

**Teaching Assistance** Spring 2016  
Engineering Frontiers and Leadership 2 (Class)  
Dept. of Computer Science and Engineering, Seoul National University

## **PROGRAMMING SKILLS**

C/C++, Python, Java, Go