

---

## FOREWORD

---

### Special Section on Next-generation Security Applications and Practice

5G has allowed a wide range of applications, including augmented reality, self-driving cars, and smart cities, thanks to its enhanced data rates, ultra-reliable low-latency, and capacity to handle massive Internet of Things connections. 5G is naturally intended to function in dispersed systems that rely heavily on cloud and edge computation, using critical technologies such as Software Defined Networking (SDN) and Network Function Virtualization (NFV). Although such a synergistic combination of cutting-edge technology enables broad connection to various use cases, security has proven to be the most difficult to achieve. Because security risks in such contexts harm a substantial part of applications that rely on 5G, context-driven and all-inclusive security solutions are desirable. Next-generation security applications that utilize artificial intelligence (AI) and other rapidly coming technologies must also be considered for such methods. AI-driven security schemes, in particular, can provide significant benefits in preventing catastrophic security breaches by rapidly analyzing massive amounts of data to find new threats (zero-day attacks) while also increasing intrusion detection accuracy and speed.

This special section on next-generation security applications and practices seeks to distribute critical information on the most current knowledge and achievements in a variety of security and privacy domains. In response, 18 papers were submitted, and 11 of them were accepted for publication after a comprehensive peer review.

As the guest editor-in-chief, I would like to offer my heartfelt gratitude to all of the authors for their contributions as well as all of the guest editorial committee members and reviewers for their countless effort.

#### Special Section Editorial Committee Members

Guest Editor-in-Chief: Ilsun YOU (Soonchunhyang University, Korea)

Guest Associate Editor-in-Chief: SeongHan SHIN (AIST), Naoto YANAI (Osaka Univ.), Jeong Hyun YI (Soongsil Univ, Korea)

Guest Associate Editors: Pelin ANGIN (Middle East Technical Univ., Turkey), Doocho CHOI (ETRI, Korea), Hyung Kee CHOI (Sungkyunkwan Univ., Korea), Swee-Huay HENG (Multimedia Univ., Malaysia), Hyunho KANG (National Institute of Technology, Tokyo College), Hiroaki KIKUCHI (Meiji Univ.), DongSeong KIM (Univ. of Queensland, Australia), Jongkil KIM (Univ. of Wollongong, Australia), Manhee LEE (Hannam Univ., Korea), Takao MURAKAMI (AIST), Masakatsu NISHIGAKI (Shizuoka Univ.), Ki-Woong PARK (Sejong Univ., Korea), Yizhi REN (Hangzhou Dianzi Univ., China), Sang Uk SHIN (Pukyong National Univ., Korea), Kunwar SINGH (NIT Trichy, India), Kuniyasu SUZAKI (AIST), Amril SYALIM (Univ. Indonesia, Indonesia), Samuel WOO (Dankook Univ., Korea), Rie Shigetomi YAMAGUCHI (Univ. of Tokyo), Toshihiro YAMAUCHI (Okayama Univ., Japan), Siu Ming YIU (Univ. of Hong Kong, Hong Kong), Taek Young YOUN (ETRI, Korea)

---

Ilsun You (Soonchunhyang University, Korea), Guest Editor-in-Chief

---

**Il-sun You** (*Member*) received the MS and PhD degrees in computer science from Dankook University, Seoul, Korea, in 1997 and 2002, respectively. He received the second PhD degree from Kyushu University, Japan, in 2012. Now, he is a full professor at Department of Information Security Engineering, Soonchunhyang University. He served as a General Chair or a Program Chair of international conferences and workshops such as WISA'19-20, MobiSec'16-19, AsiaARES'13-15, MIST'09-17, MobiWorld'08-17, and so forth. Dr. YOU is the editor-in-chief of Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications and Journal of Internet Services and Information Security. He is an associate editor for Information Sciences, IEEE Access, etc. Especially, he has focused on 5/6G security, mobile internet security, IoT security and so forth while publishing more than 200 papers in these areas. He is a Fellow of the IET and a senior member of the IEEE.

---

