
FOREWORD

Special Section on Next-generation Security Applications and Practice

Being the most recent and advanced version of cellular technology, 5G has already transformed a wide range of applications such as virtual and augmented reality (through its enhanced mobile broadband); smart city and home (through massive machine-type communication); and remote health and autonomous vehicles (through ultra-reliable and low-latency communication). Innovative and cutting-edge enablers, such as software-defined networks (SDN), network function virtualization (NFV), and multi-access edge computing (MEC), provide programmability, on-demand resource allocation, consolidation of several heterogeneous devices, and permit low latency by bringing computation closer to the user.

Despite the fact that such a dynamic combination of cutting-edge technology provides the widespread connection to a wide range of use cases, security has proven to be the most challenging to execute. As a result, security systems that use cutting-edge developments, such as artificial intelligence (AI), are necessary to identify possible tamperings automatically through intelligent, adaptive, and autonomous security management. Such solutions can bring huge benefits in averting devastating security breaches by swiftly analyzing vast volumes of data to uncover new threats (zero-day attacks) while also improving intrusion detection performance.

This special section on next-generation security applications and practices aims to communicate the most recent knowledge and advancements in device, application, and system security and privacy, particularly in the context of 5G, Industry 4.0, and Society 5.0. Accordingly, a total of 21 papers were submitted, and 15 of them were accepted after a comprehensive peer review process.

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.

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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, Cryptology, and Mathematics, Kookmin University. He has served or is currently serving as a Steering Chair, General Chair or a Program Chair of international conferences and symposiums such as MobiSec'16–21, WISA'19–20, ProvSec'18, ACM MIST'15–17 and so forth. Dr. YOU is the EiC of Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications (JoWUA) and Journal of Internet Services and Information Security (JISIS) while serving as an associate EiC of Intelligent Automation & Soft Computing (IASC). He is in the Editorial Board for Information Sciences, International Journal of Intelligent Systems, IEEE Access, ICT Express and so on. Especially, he has focused on 5/6G security, security for wireless networks & mobile internet, IoT/CPS security and so forth while publishing more than 180 papers in these areas. He is a Fellow of the IET and a Senior member of the IEEE.

