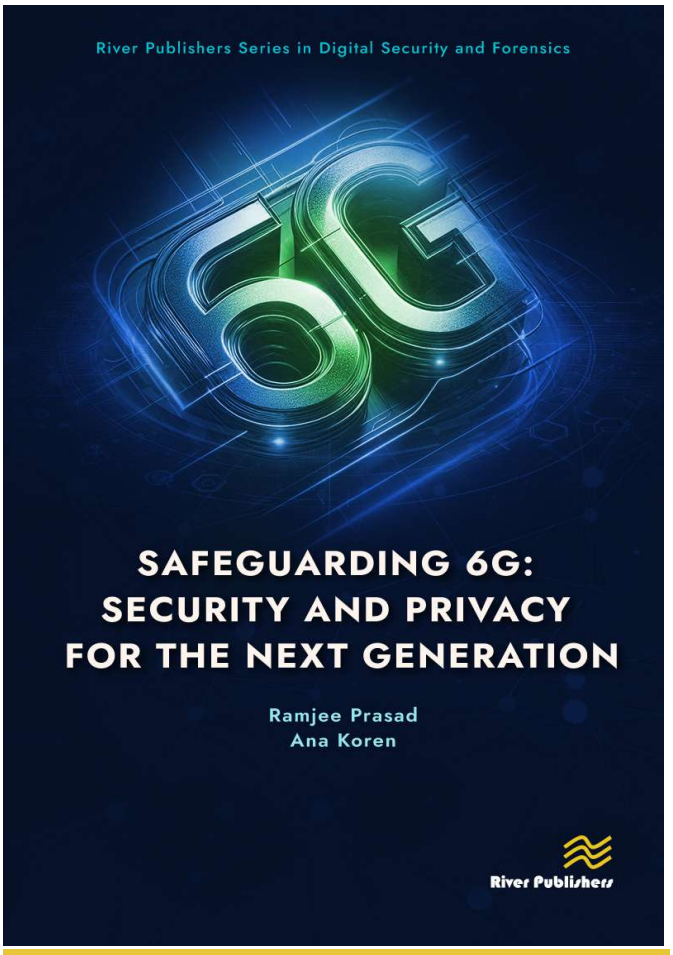
River Publishers

Safeguarding 6G: Security and Privacy for the Next Generation

Authors:

Ramjee Prasad, CTIF Global Capsule (CGC), Aarhus University, Denmark

Ana Koren, River Publishers/CTIF Global Capsule (CGC), Aarhus University, Denmark



This book provides a comprehensive overview of security and privacy challenges in 6G networks, addressing the urgent need for advanced security frameworks as the next generation of wireless technology emerges. The rapid advancements in quantum computing, AI, and IoT are transforming the digital landscape, introducing both unprecedented opportunities and significant security threats. From AI-driven cyberattacks to the vulnerabilities of IoT devices, this book explores cutting-edge technologies such as quantum key distribution (QKD), post-quantum cryptography, and AI-enabled security systems.

Designed for professionals and researchers, this resource outlines real-world applications of 6G security techniques, offering practical insights into protecting critical infrastructures, autonomous vehicles, smart cities, and more. By emphasizing a proactive approach to cybersecurity and fostering collaboration across industries, academia, and policymakers, the book lays out a roadmap for ensuring the resilience and trustworthiness of 6G networks in the future.

TABLE OF CONTENTS

1. 6G Security and Privacy: Overview and Introduction
2. Quantum Computing and its Implications for 6G Security
3. Post-quantum Cryptography: Challenges and Solutions
4. Quantum Key Distribution (QKD) and Quantum Random Number Generators (QRNGs)
5. AI-driven Threats and AI-enabled Security Solutions in 6G Networks
6. Securing IoT and Connected Devices in 6G Networks
7. Privacy-preserving Techniques: Homomorphic Encryption and Differential Privacy
8. Blockchain and Distributed Ledger Technology (DLT) for 6G Security
9. 6G Security Governance: Regulation, Standardization, and Ethical Considerations
10. Case Studies: Securing Healthcare IoT, Autonomous Vehicles, Smart Grid Infrastructure and Industry 4.0
11. The Future of 6G Security: Navigating Emerging Challenges and Collaborative Strategies

River Publishers Series in Digital Security and Forensics

ISBN: 9788770047944
e-ISBN: 9788770047937
Available From: May 2025
Price: $ 140.00

KEYWORDS:
6G security, quantum computing, AI-driven threats, post-quantum cryptography, QKD, AI-enabled threat detection, IoT security, blockchain, distributed ledger technology, privacy-preserving techniques, 6G standardization

www.riverpublishers.com
marketing@riverpublishers.com