QUANTUM COMPUTING *in* CYBERSECURITY

Edited By

Romil Rawat, Rajesh Kumar Chakrawarti,
Sanjaya Kumar Sarangi, Jaideep Patel,
Vivek Bhardwaj, Anjali Rawat *and* Hitesh Rawat

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Scrivener Publishing
100 Cummings Center, Suite 541J
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Publishers at Scrivener
Martin Scrivener (martin@scrivenerpublishing.com)
Phillip Carmical (pcarmical@scrivenerpublishing.com)

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Preface

The main topics of this book are:

- Quantum Inspired Community Classification in Social Networks Analytics
- Future Directions in Quantum Computing
- Quantum Machine Learning for Intrusion Detection
- Quantum Designs to Detect Distributed Denial of Service Attacks
- Cyber Terrorism for Quantum Internet
- Cryptography, and
- Cyber Criminals' Quantum Communication Networks

The security and effectiveness of communications in network infrastructures might be improved by quantum technology in a previously unheard-of way. This book, written as a complete and thorough text, guides readers through mathematically challenging topics in a way that encourages student participation.

In the context of criminality and forensics, this book offers a clear, step-by-step explanation of quantum computing. A deeper comprehension of the human and social dimensions of pertinent complexities, such as child sexual exploitation, violent radicalization, trafficking, disinformation and fake news, corruption, and cyber criminality, as well as victim support, must serve as the foundation for improved cyber-crime prevention, investigation, and remediation. Applications and solutions based on quantum computing that analyse massive volumes of data in near-real time in order to stop criminal activities or combat false information and disinformation while addressing security issues. In order to confront crime, including cybercrime and terrorism as well as various types of serious and organized crime, this will help security agencies incorporate such details into the operating processes of police officials (such as smuggling, money laundering, identity theft, counterfeiting of products, trafficking of illicit drugs and

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falsified or substandard medicines, environmental crime, or illicit trafficking of cultural goods).

Cybercriminals employ cutting-edge tools, such as machine learning methods, to build and spread deadly malware using vast amounts of data. Cyber attackers can develop a ground-breaking means of evading cyber security by using quantum computing, which would enable them to quickly assess vast datasets before launching a sophisticated attack on several networks and devices.

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