

Navigating Cyber Attacks with Quantum Computing Leveraging Vulnerabilities and Forensics for Advanced Penetration Testing in Cybersecurity

Authors : Sayor Ajfar Aaron, Md. Mushfiqur Rahman, Sajjat Hossain Abir, Ashif Newaz

Abstract : This paper examines the transformative potential of quantum computing in the field of cybersecurity, with a focus on advanced penetration testing and forensics. It explores how quantum technologies can be leveraged to identify and exploit vulnerabilities more efficiently than traditional methods and how they can enhance the forensic analysis of cyber-attacks. Through theoretical analysis and practical simulations, this study highlights the enhanced capabilities of quantum algorithms in detecting and responding to sophisticated cyber threats, providing a pathway for developing more resilient cybersecurity infrastructures.

Keywords : cybersecurity, cyber forensics, penetration testing, quantum computing

Conference Title : ICCIT 2024 : International Conference on Computing and Information Technology

Conference Location : New York, United States

Conference Dates : September 12-13, 2024