1. Record Nr. UNINA9910917789003321

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Titolo	The Rise of Quantum Computing in Industry 6.0 Towards Sustainability : Revolutionizing Smart Disaster Management / / edited by C Kishor Kumar Reddy, Anindya Nag, Mariya Ouaissa, Bharat Bhushan, Marlia Mohd Hanafiah
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024
ISBN	9783031733505 3031733509
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (286 pages)
Collana	Advances in Science, Technology & Innovation, IEREK Interdisciplinary Series for Sustainable Development, , 2522-8722
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Disciplina	004
Soggetti	Computer science Quantum computers Computer engineering Computer networks Computer Science Quantum Computing Computer Engineering and Networks
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1. Implementing Advanced Technologies for Disaster Management in the Age of Industry 6.0 Strategies and Best Practices Using Quantum Computing.-Chapter 2. Disaster Management in the Era of Industry 6.0: Leveraging Quantum Computing for Enhanced Resilience and Sustainability -- Chapter 3. Quantum Computing and AI: Synergizing for Sustainable Disaster Management in Industry 6.0 -- Chapter 4. Navigating the Intersection of Industry 6.0, Quantum Computing, and Disaster Management: Consumer Insights and Technological Impact -- Chapter 5. Quantum-Powered Industry 6.0 Innovations for Enhanced Catastrophe Management -- Chapter 6.

Leveraging Quantum Computing for Enhanced Decision Support in Disaster Management -- Chapter 7. Impact of Quantum Computing on health Informatics for Disaster Preparedeness -- Chapter 8. Quantum-based predictive modelling for extreme weather events -- Chapter 9. Utilizing Quantum Computing for Enhanced Natural Disaster Prediction and Mitigation Strategies -- Chapter 10. Advancing Disaster Management in Industry 6.0: The Role of DNA Sequencing Sensors and Quantum Computing in Hyperspectral Image Analysis -- Chapter 11. An Empirical Study into Quantum Machine Learning for Precise and Effective Weather Forecasting -- Chapter 12. Quantum-Enhanced Strategies for Optimizing Disaster Response: A Machine Learning Approach -- Chapter 13. Quantum Computing based Climate Change Mitigation for Disaster Management in Industry 6.0 -- Chapter 14. Cyber-Physical Systems Security and Quantum Computing Applications in Disaster Recovery for Industry 6.0 -- Chapter 15. Quantum LSTM-Based Deep Learning and Hybrid Hydrodynamic Modeling of Mahanadi River Network -- Chapter 16. The Intersection of Quantum Computing and Disaster Management.

Sommario/riassunto

The proposed book offers a thorough examination of the revolutionary capabilities of quantum computing in the context of Industry 6.0, with a specific emphasis on its use in disaster management. The aim of this proposed book is to clarify how quantum computing, in conjunction with other Industry 6.0 technologies, might profoundly transform our comprehension, preparedness, and response to natural disasters. In the era of Industry 6.0, which is defined by the integration of cyber-physical systems and modern technology, there is a pressing need for creative solutions to tackle the increasing difficulties caused by natural disasters. This proposed book explores the distinctive characteristics and capacities of quantum computing that make it especially suitable for improving disaster management procedures. The proposed book examines the potential of quantum algorithms to enhance resource allocation, enhance forecasting precision, and facilitate real-time decision-making in the context of rapidly changing crisis scenarios. This proposed book proposes a comprehensive strategy for catastrophe management that is adaptable, robust, and efficient by utilizing quantum computing in conjunction with other advanced technologies like quantum computing, artificial intelligence, the Intelligent Internet of Things. This proposed book offers a comprehensive analysis of the specific ways in which quantum computing can be utilized in different areas of disaster management. It covers topics such as risk assessment, early warning systems, response coordination, and infrastructure resilience. By examining real-world case studies and examples, readers can acquire valuable insights into the practical implementation and effectiveness of quantum-powered crisis management solutions, showcasing their potential impact. This proposed book acknowledges the ethical consequences of implementing sophisticated technologies in disaster management. It focuses on important ethical and societal factors, including data privacy, algorithmic bias, and fair access to technology. The aim is to ensure that quantum-powered solutions prioritize ethical principles and cater to the requirements of all communities. This proposed book provides readers with a clear understanding of the potential areas for future study, innovation, and collaboration in the field of quantum-powered crisis management systems. By doing so, it enables readers to stay updated on current trends and actively contribute to the continuous development of these solutions.