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Nota di contenuto	Cover -- Series Page -- Title Page -- Copyright Page -- Contents -- Preface -- Chapter 1 Advancements and Challenges in Multimodal Data Fusion for Bioinformatics AI -- 1.1 Introduction -- 1.2 Literature Review -- 1.3 Results and Discussion -- Conclusion -- References -- Chapter 2 Automated Machine Learning in Bioinformatics -- 2.1 Introduction -- 2.2 Need of Automated Machine Learning -- 2.3 Automated ML in Various Areas of Bioinformatics -- 2.4 Major Obstacles for Automated ML in Various Areas of Bioinformatics -- 2.5 Applications of Automated ML in Various Areas of Bioinformatics -- 2.6 Case Study 1 -- 2.7 Conclusion and Future Directions -- References -- Chapter 3 Data-Driven Discoveries: Unveiling Insights with Automated Methods -- 3.1 Introduction -- 3.2 Important Functions in Bioinformatics Include Data Mining and Analysis -- 3.3 Deep Learning

in Bioinformatics -- 3.4 Challenges and Issues -- 3.4.1 Data Requirements for Big Data Sets -- 3.4.2 Model Selection and Learning Strategy -- 3.5 Conclusion -- References -- Chapter 4 Comparative Analysis of Conventional Machine Learning and Deep Learning Techniques for Predicting Parkinson's Disease -- 4.1 Introduction -- 4.2 Symptoms and Dataset for PD -- 4.3 Parkinson's Disease Classification Using Machine Learning Methods -- 4.4 Parkinson's Disease Classification Using DL Methods -- 4.5 Conclusion -- References -- Chapter 5 Foundations of Multimodal Data Fusion -- Introduction -- What is Multimodal Data Fusion in Bioinformatics AI? -- Types of Data Modalities in Bioinformatics -- Challenges and Considerations in Multimodal Data Fusion -- Foundational Principles of Data Fusion -- Machine Learning and Deep Learning Techniques for Multimodal Data Fusion -- Feature Representation and Fusion -- Applications in Bioinformatics AI -- Evaluation Metrics and Validation Strategies -- Evaluation Metrics.
Approval Techniques -- Ethical and Legal Considerations -- Future Directions and Challenges -- Conclusion -- References -- Chapter 6 Integrating IoT, Blockchain, and Quantum Machine Learning: Advancing Multimodal Data Fusion in Healthcare AI -- 6.1 Introduction -- 6.2 Internet of Things (IoT) in Healthcare -- 6.3 Blockchain Technology in Healthcare -- 6.4 Quantum Machine Learning in Healthcare -- 6.5 Integration of IoT, Blockchain, and Quantum Machine Learning in Healthcare -- 6.6 Ethical and Regulatory Considerations in Healthcare Technology -- 6.7 Challenges and Future Directions in Healthcare Technology Integration -- 6.8 Results and Discussion -- 6.9 Conclusion -- References -- Chapter 7 Integrating Multimodal Data Fusion for Advanced Biomedical Analysis: A Comprehensive Review -- 7.1 Introduction -- 7.2 Multimodal Biomedical Analysis -- 7.3 Challenges in Data Fusion -- 7.4 Deep Learning Methods for Data Fusion -- 7.5 Case Studies and Applications -- 7.5.1 Neuro-Imaging and Genetic Data Fusion -- 7.5.2 Multi-Omics Data Fusion for Cancer Classification -- 7.5.3 Clinical and Wearable Sensor Data Fusion -- 7.6 Future Directions -- 7.7 Conclusion -- References -- Chapter 8 Machine Learning Approaches for Integrating Imaging and Molecular Data in Bioinformatics -- 8.1 Introduction -- 8.2 Background and Motivation -- 8.3 Machine Learning Basics -- 8.4 Approaches for Data Integration -- 8.5 Machine Learning Techniques for Imaging and Molecular Data -- 8.6 Applications -- 8.7 Challenges and Future Directions -- 8.8 Case Studies -- 8.9 Conclusion -- References -- Chapter 9 Time Series Analysis in Functional Genomics -- 9.1 Introduction -- 9.2 Foundations of Time Series Analysis in Functional Genomics -- 9.2.1 Definition and Concept -- 9.2.1.1 Time Series Data in Genomics -- 9.2.1.2 Key Terminology.
9.2.2 Challenges in Analyzing Functional Genomic Time Series Data -- 9.2.2.1 Noise and Variability -- 9.2.2.2 Data Preprocessing Considerations -- 9.3 Methodologies for Time Series Analysis -- 9.3.1 Overview of Existing Approaches -- 9.3.1.1 Classical Methods -- 9.3.1.2 Advanced Computational Techniques -- 9.3.2 Case Studies -- 9.3.2.1 Successful Applications -- 9.4 Applications of Time Series Analysis in Functional Genomics -- 9.4.1 Gene Expression Profiling -- 9.4.1.1 Identification of Temporal Patterns -- 9.4.1.2 Regulatory Network Inference -- 9.4.2 Functional Annotation -- 9.4.2.1 Enrichment Analysis -- 9.4.2.2 Pathway Analysis -- 9.4.3 Comparative Analysis -- 9.4.3.1 Contrasting Time Series Data Across Genomic Entities -- 9.5 Integration with Multimodal Data -- 9.5.1 Overview of Multimodal Data Fusion -- 9.5.2 Challenges and Opportunities in Integrating Time Series Data -- 9.5.2.1 Challenges in Integrating Time

Series Data -- 9.5.2.2 Opportunities in Integrating Time Series Data -- 9.5.3 Case Studies on Successful Integration -- 9.5.3.1 Unveiling Temporal Interactions Across Multiple Modalities -- 9.5.3.2 Temporal Biomarkers in Disease Progression -- 9.6 Conclusion -- References -- Chapter 10 Review of Multimodal Data Fusion in Machine Learning: Methods, Challenges, Opportunities -- 10.1 Introduction -- 10.2 Related Work -- 10.2.1 Machine and Deep Learning Methods with Multimodal -- 10.2.2 Evaluation of Multimodal -- 10.3 Multimodal and Data Fusion -- 10.4 Applications, Opportunities, and Challenges -- 10.4.1 Audio-Visual Multimodality -- 10.4.2 Human-Machine Interaction (HML) -- 10.4.3 Understanding Brain Functionality -- 10.4.4 Medical Diagnosis -- 10.4.5 Smart Patient Monitoring -- 10.4.6 Remote Sensing and Earth Observations -- 10.4.7 Meteorological Monitoring -- 10.5 Conclusion and Future Directions -- 10.5.1 Conclusion.
10.5.2 Future Directions -- References -- Chapter 11 Recent Advancement in Bioinformatics: An In-Depth Analysis of AI Techniques -- 11.1 Introduction -- 11.2 AutoMLDL Methods -- 11.3 Application of AutoMLDL in Bioinformatics -- 11.3.1 Bioinformatics and the Categorization of Cardiovascular Diseases -- 11.3.2 Diagnostics of Coronavirus Disease and Bioinformatics -- 11.3.3 Genomic and Bioinformatic Correlation with Clinical Data and Progress of Disease -- 11.3.4 Bioinformatics in the Study of Drug Resistance -- 11.4 Advanced Algorithm in AutoMLDL for Bioinformatics -- 11.4.1 Optimization with Hybrid Harris Hawks along with Cuckoo Search Applying Chemo Bioinformatics -- 11.4.2 The Integration of Chemoinformatics and Bioinformatics with AI -- 11.5 Security and Privacy Issues in AutoMLDL -- 11.5.1 Security and Privacy -- 11.5.2 Open Issues -- 11.6 Conclusion and Future Works -- References -- Chapter 12 Future Directions and Emerging Trends in Multimodal Data Fusion for Bioinformatics -- 12.1 Introduction -- 12.2 Foundational Concepts -- 12.3 Current State of Multimodal Data Fusion in Bioinformatics -- 12.4 Emerging Trends in Data Fusion -- 12.5 Algorithms -- 12.5.1 Deep Learning Architectures for Data Fusion -- 12.5.2 Ensemble Methods for Heterogeneous Data Integration -- 12.5.3 Dimensionality Reduction and Feature Extraction -- 12.5.4 Multi-View Learning Algorithms -- 12.5.5 Federated Learning for Privacy-Preserving Data Fusion -- 12.6 Future Directions -- 12.7 Case Studies and Applications -- 12.8 Challenges and Opportunities -- 12.9 Conclusion -- References -- Chapter 13 Future Trends in Bioinformatics AI Integration -- Introduction -- What Is Multimodal Data Fusion? -- Types of Multimodal Data in Bioinformatics -- Challenges in Multimodal Data Fusion -- Multimodal Data Integration Approaches -- Feature Representation and Selection.
Integration of Omics Data -- Clinical Applications -- Imaging Data Fusion -- Biological Network Integration -- Applications in Precision Medicine -- Computational Tools and Resources -- Future Directions and Challenges -- Conclusion -- References -- Chapter 14 Emerging Technologies in IoM: AI, Blockchain and Beyond -- 14.1 Introduction -- 14.1.1 Importance of the Internet of Medicine -- 14.2 Artificial Intelligence (AI) in Healthcare -- 14.2.1 Diagnostic Imaging and Radiology -- 14.2.2 Predictive Analytics and Personalized Medicine -- 14.2.3 Natural Language Processing (NLP) for Clinical Documentation -- 14.2.4 Virtual Health Assistants and Chatbots -- 14.2.5 Drug Discovery and Development -- 14.2.6 Operational Efficiency and Resource Management -- 14.2.7 Remote Patient Monitoring -- 14.2.8 Fraud Detection and Security -- 14.2.9 Ethical Considerations and Bias Mitigation -- 14.2.10 Regulatory Compliance -- 14.3 Blockchain in the

Medical Landscape -- 14.3.1 Data Security and Integrity -- 14.3.2 Interoperability -- 14.3.3 Patient Empowerment -- 14.3.4 Supply Chain Management -- 14.3.5 Clinical Trials and Research -- 14.3.6 Smart Contracts -- 14.3.7 Identity Management -- 14.3.8 Credentialing and Certification -- 14.3.9 Data Sharing and Consent -- 14.3.10 Cybersecurity -- 14.4 Benefits of Using Technologies in IoM -- 14.4.1 Remote Monitoring and Telemedicine -- 14.4.2 Improved Diagnostics and Treatment -- 14.4.3 Genomic Medicine and Data Analytics -- 14.4.4 Automation and Robotics -- 14.4.5 Wearables and IoT Devices -- 14.4.6 Virtual Reality (VR) and Augmented Reality (AR) -- 14.4.7 Telehealth and Mobile Health (mHealth) -- 14.4.8 Blockchain for Healthcare Management -- 14.4.9 Data Analytics and AI in Research -- 14.4.10 Blockchain and Encryption -- 14.5 Integration of Cutting-Edge Technologies.
14.6 Beyond AI and Blockchain: Exploring Additional Technologies.

Sommario/riassunto

Multimodal Data Fusion for Bioinformatics Artificial Intelligence is a must-have for anyone interested in the intersection of AI and bioinformatics, as it delves into innovative data fusion methods and their applications in 'omics' research while addressing the ethical implications and future developments shaping the field today. Multimodal Data Fusion for Bioinformatics Artificial Intelligence is an indispensable resource for those exploring how cutting-edge data fusion methods interact with the rapidly developing field of bioinformatics. Beginning with the basics of integrating different data types, this book delves into the use of AI for processing and understanding complex "omics" data, ranging from genomics to metabolomics. The revolutionary potential of AI techniques in bioinformatics is thoroughly explored, including the use of neural networks, graph-based algorithms, single-cell RNA sequencing, and other cutting-edge topics. The second half of the book focuses on the ethical and practical implications of using AI in bioinformatics. The tangible benefits of these technologies in healthcare and research are highlighted in chapters devoted to precision medicine, drug development, and biomedical literature. The book addresses a wide range of ethical concerns, from data privacy to model interpretability, providing readers with a well-rounded education on the subject. Finally, the book explores forward-looking developments such as quantum computing and augmented reality in bioinformatics AI. This comprehensive resource offers a bird's-eye view of the intersection of AI, data fusion, and bioinformatics, catering to readers of all experience levels.