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Machine Learning-Based Recommender System for Cancer Patients -- Chapter 8 Deep Learning Techniques to Detect Brain Tumors Using EfficientNet-B0 CNN Architecture -- Chapter 9 Optimized Deep Learning Framework for Lung Cancer Detection in Computed Tomography Scans -- Chapter 10 Hybrid Deep Learning Architectures for Brain Tumor Classification Using Magnetic Resonance Imaging: ViT-GRU and GNet-SVM Models -- Chapter 11 A Combination of CNN and Fuzzy Transform Framework for Accurate Brain Tumor Detection -- Chapter 12 CorPML: A ML-based hybrid model for effective Cancer diagnosis using CFS and PSO feature selection -- Chapter 13 Comparative Analysis of Machine Learning Algorithms for Lung and Colon Cancer Classification Using Deep Feature Extraction -- Chapter 14 A Machine Learning and Deep Learning Approach to Cancer Prediction -- Chapter 15 Enhanced Lung Cancer Classification Using SMOTE and Soft Voting Ensemble of Decision Tree, XGBoost, and Logistic Regression -- Chapter 16 A Comprehensive Analysis of Lung Cancer Prediction Using Machine Learning Models -- Chapter 17 Breast Cancer Prediction based on SMOTE and Ensemble Classifier -- Part III: AI-Driven Medical Imaging and Diagnostic Approaches.-Chapter 18 Novel Method for Assessing the Effectiveness of the Deep Learning-Based Unet Model in Forecasting Brain Tumors Using MRI Scans -- Chapter 19 Binary Algorithm in AI for Early Skin Cancer Identification with 3D-TBP -- Chapter 20 Mammograms Classification Using Deep Neural Networks in Breast Cancer Detection -- Chapter 21 Thermal and Mammographic Image Fusion for Breast Cancer Detection: A Self-Supervised Bi-Pipeline Approach -- Chapter 22 ResNet-152 for Brain Tumor Detection: A Deep Learning Approach for Medical Image Analysis -- Chapter 23 Computational Diagnosis application of Cervical Cancer using Deep Learning Application -- Chapter 24 The Impact of Preprocessing Techniques on Automated Skin Cancer Detection Systems -- Chapter 25 Performance Analysis of Intelligent models for Breast cancer classification -- Part IV: AI in Cancer Treatment and Personalized Medicine -- Chapter 26 AI-Driven Advancements in Oncology: Harnessing Pharmacogenomics for Precision Cancer Treatment and Optimized Therapeutic Outcomes -- Chapter 27 Integrating Deep Learning in Prostate Cancer Grading: Innovations in Computational Pathology -- Chapter 28 AI-Driven Radiotherapy Solutions for Rare and Complex Cancers Using Multi-Omics Approaches -- Chapter 29 Artificial Intelligence Future in Oncology for Breast Cancer: Risk Prediction and Monitoring -- Part V: AI in Public Health and Oncology Nursing -- Chapter 30 AI in Public Health -- Chapter 31 The Impact of Artificial Intelligence on Oncology Nursing: Enhancing Patient Care, Symptom Management, and Decision Support -- Chapter 32 Empowering Oncology Healthcare Professionals: Evaluating the Effect of AI-Driven Training Modules on Awareness, Knowledge, Clinical Competence, and Patient Care in Cancer Management -- Chapter 33 Revolutionizing Oncology Education: The Impact of AI-Driven Tools on Patient Knowledge, Adherence, and Satisfaction -- Chapter 34 Harnessing Artificial Intelligence in Oncology Palliative Care: Current Status, Challenges, and Recommendations with Reference to India -- Chapter 35 The Transformative Role of AI in Public Health for Cancer Prevention, Early Detection, and Management -- Part VI: AI and Predictive Analytics in Cancer Research -- Chapter 36 Health Care Professionals' Opinions on the Role of Artificial Intelligence (AI) in Preventing Cancer -- Chapter 37 Transforming Oncology Care: The Role of Artificial Intelligence in Improving Diagnostic Accuracy and Treatment Decisions -- Chapter 38 Artificial Intelligence in Oncology: Comparative Analysis and Insights into Diagnostics, Treatment,

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Sommario/riassunto

The book explores the integration of AI into cancer research and treatment. It covers how AI is transforming cancer diagnosis, improving the accuracy of imaging techniques, and predicting patient outcomes. The content includes discussions on machine learning algorithms for early detection, personalized medicine approaches, and AI-driven drug discovery. Additionally, the book addresses ethical concerns, challenges in implementing AI in clinical practice, and real-world case studies showing the impact of AI in oncology. The editors hope that the book can inspire new generations of doctors, engineers, and researchers to continue innovating in the field of cancer treatment through AI. The book is meant to serve as a guide for both healthcare and technology professionals in advancing cancer care through AI applications. Medical students, AI researchers, and academics may use the book as a comprehensive guide to understanding the intersection of AI technology and oncology.