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Nota di contenuto	Deep Convolutional Neural Networks (CNNs) -- Deep CNNs for Image Classification, Object Detection, and Segmentation -- Attention and Transformer Networks -- Transformer-based Approaches for Medical Image Analysis -- Deep Learning Networks for 3D Medical Image Analysis -- Multimodal Deep Learning for Medical Image Analysis -- Semi-supervised Learning for Medical Image Analysis -- Domain Adaptation and Generalization for Medical Image Analysis -- Deep Learning Models for Medical Image Translation -- Foundation Models for Medical Image Analysis.
Sommario/riassunto	This book is a valuable resource for understanding the transformative role of artificial intelligence in modern healthcare and aims to inspire continued research and collaboration across disciplines. In recent years, deep learning has emerged as a transformative technology across various fields, with medical image analysis standing out as one of its most impactful applications. This book offers a comprehensive overview of the latest developments in this fast-evolving domain,

bridging foundational principles with state-of-the-art techniques that are redefining the future of medical imaging. This book is structured in two parts—Part I: Deep Learning Fundamentals and Paradigms and Part II: Advanced Deep Learning for Medical Image Analysis. The book provides in-depth coverage of essential topics, including convolutional neural networks, attention mechanisms, transformer architectures, multimodal analysis, semi-supervised learning, domain adaptation, generative models, and foundation models for large-scale pretraining. This book is intended for a broad audience, including graduate students, academic researchers, and industry professionals in computer science, biomedical engineering, and healthcare technologies. It serves as both an introductory guide and a reference resource for those seeking to deepen their knowledge in this rapidly evolving area.
