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Sommario/riassunto	This book highlights intelligent analysis methods for optical images, with a particular emphasis on analytical techniques and programming. Automatic image processing and intelligent analysis represent the future trends of applications and are integral to machine vision analysis. By integrating optical imaging processes with computing technology, operations such as information extraction, modification, and organization can be effectively executed. The study of these

intelligent analysis methods is intrinsically linked to various scientific and technological domains, including optics, mathematics, computing, and artificial intelligence. The collection and organization of relevant technologies for intelligent analysis hold significant application value across fields such as autonomous driving, computational vision, artificial intelligence, and multimodal information processing. The demand for accurate, automatic, and rapid image information acquisition is a pressing requirement in contemporary applications. As image processing technology develops rapidly, the distinguishing between image analysis and image processing is not straightforward. Given the vast amount of information contained in images, the necessity to extract pertinent information becomes even more pronounced, thereby conserving time and computational resources for subsequent applications. For optical images, the development and organization of intelligent analysis methods are of urgent importance, carrying substantial significance and social benefits for both application and research endeavors. Intelligent analysis methods are crucial for image acquisition and application, serving as a bridge between the two. When combined with deep learning technology, these methods can facilitate more comprehensive and in-depth research, enabling relevant information and technologies to better serve application tasks. This book is a valuable source of reference for researchers, engineers, and students engaged in the work and study in optical imaging fields.
