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	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	The Analysis of Medical Images -- Digital Image Acquisition -- Image Storage and Transfer -- Image Enhancement -- Feature Detection -- Segmentation: Principles and Basic Techniques -- Segmentation in Feature Space -- Segmentation as a Graph Problem -- Active Contours and Active Surfaces -- Registration and Normalization -- Shape, Appearance and Spatial Relationships -- Classification and Clustering -- Validation -- Appendix.
	Sommario/riassunto	This comprehensive guide provides a uniquely practical, application-focused introduction to medical image analysis. The text presents a concise examination of each of the key concepts, enabling the reader to understand the interdependencies between them before delving deeper into the derivations and technical details. This fully updated new edition has been enhanced with material on the latest developments in the field, whilst retaining the original focus on segmentation, classification and registration. Topics and features: Presents learning objectives, exercises and concluding remarks in each chapter, in addition to a glossary of abbreviations Describes a range of common imaging techniques, reconstruction techniques and image artifacts, and discusses the archival and transfer of images Reviews an expanded selection of techniques for image enhancement, feature detection, feature generation, segmentation, registration, and validation (NEW) Examines analysis methods in view of image-based

guidance in the operating room, designed to aid the operator in adapting their intervention during an operation (NEW) Discusses the use of deep convolutional networks for segmentation and labeling tasks, describing how this network architecture differs from multi-layer perceptrons (NEW) Includes appendices on Markov random field optimization, variational calculus and principal component analysis This clearly-written guide/reference serves as a classroom-tested textbook for courses on medical image processing and analysis, with suggestions for course outlines supplied in the preface. Professionals in medical imaging technology, as well as computer scientists and electrical engineers specializing in medical applications, will also find the book an ideal resource for self-study.