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Nota di contenuto	Part 1 Image Fundamentals 1 Image Basics 2 Image Engineering 3 Image Acquisition Devices 4 Image Acquisition Modes 5 Image Digitization 6 Image Display and Printing 7 Image Storage and Communication 8 Related Knowledge Part 2 Image Processing 9 Pixel Spatial Relationship 10 Image Transforms 11 Point Operations for Spatial Domain Enhancement 12 Mask Operations for Spatial Domain Enhancement 13 Frequency Domain Filtering 14 Image Restoration 15 Image Repair and Recovery 16 Image Reconstruction from Projection 17 Image Coding 18 Image Watermarking 19 Image Information Security 20 Color Image Processing 21 Video Image Processing 22 Multi-Resolution Image Part 3 Image Analysis 23 Segmentation Introduction 24 Edge Detection 25 Object Segmentation Methods 26 Segmentation Evaluation 27 Object Representation 28 Object Description 29 Feature Measurement and Error Analysis 30 Texture Analysis 31 Shape Analysis 32 Motion Analysis 33 Image Pattern Recognition 34 Biometric Recognition Part 4 Image Understanding 35 Theory of Image Understanding 36 3-D

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	Representation and Description 37 Stereo Vision 38 Multi-image 3-D Scene Reconstruction 39 Single-image 3D Scene Reconstruction 40 Knowledge and Learning 41 General Image Matching 42 Scene Analysis and Interpretation 43 Image Information Fusion 44 Content-Based Retrieval 45 Spatial-Temporal Behavior Understanding Part 5 Related References 46 Related Theories and Techniques 47 Optics 48 Mathematical Morphology for Binary Images 49 Mathematical Morphology for Gray-Level Images 50 Visual Sensation and Perception 51 Application of Image Technology 52 International Organizations and Standards.
Sommario/riassunto	Image techniques have been developed and implemented for various purposes, and image engineering (IE) is a rapidly evolving, integrated discipline comprising the study of all the different branches of image techniques, and encompassing mathematics, physics, biology, physiology, psychology, electrical engineering, computer science and automation. Advances in the field are also closely related to the development of telecommunications, biomedical engineering, remote sensing, surveying and mapping, as well as document processing and industrial applications. IE involves three related and partially overlapping groups of image techniques: image processing (IP) (in its narrow sense), image analysis (IA) and image understanding (IU), and the integration of these three groups makes the discipline of image engineering an important part of the modern information era. This is the first handbook on image engineering, and provides a well- structured, comprehensive overview of this new discipline. It also offers detailed information on the various image techniques. It is a valuable reference resource for R&D professional and undergraduate students involved in image-related activities.