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Soggetti	Computer vision Image processing - Digital techniques Image processing Computer science User interfaces (Computer systems) Human-computer interaction Computer Vision Computer Imaging, Vision, Pattern Recognition and Graphics Image Processing Theory and Algorithms for Application Domains Computer Science User Interfaces and Human Computer Interaction Visió per ordinador Processament digital d'imatges Llibres electrònics
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chapter 1. Introduction -- Chapter 2. Camera Calibration -- Chapter 3. 3-D Image Acquisition -- Chapter 4. Video and Motion Information -- Chapter 5. Moving Object Detection and Tracking -- Chapter 6. Binocular Stereo Vision -- Chapter 7. Monocular Multiple Image Reconstruction -- Chapter 8. Monocular Single Image Reconstruction -- Chapter 9. 3-D Scene Representation -- Chapter 10. Scene Matching -- Chapter 11. Knowledge and Scene Interpretation -- Chapter 12. Spatial-Temporal Behavior Understanding.

Sommario/riassunto

This textbook offers advanced content on computer vision (basic content can be found in its prerequisite textbook, “2D Computer Vision: Principles, Algorithms and Applications”), including the basic principles, typical methods and practical techniques. It is intended for graduate courses on related topics, e.g. Computer Vision, 3-D Computer Vision, Graphics, Artificial Intelligence, etc. The book is mainly based on my lecture notes for several undergraduate and graduate classes I have offered over the past several years, while a number of topics stem from my research publications co-authored with my students. This book takes into account the needs of learners with various professional backgrounds, as well as those of self-learners. Furthermore, it can be used as a reference guide for practitioners and professionals in related fields. To aid in comprehension, the book includes a wealth of self-test questions (with hints and answers). On the one hand, these questions help teachers to carry out online teaching and interact with students during lectures; on the other, self-learners can use them to assess whether they have grasped the key content.
