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	Nota di contenuto	Part I: Methods of 3D Computer Vision -- Triangulation-based Approaches to Three-dimensional Scene Reconstruction -- Three-dimensional Pose Estimation and SegmentationMethods -- Intensity-based and Polarisation-based Approaches -- Point Spread Function Based Approaches to Three-dimensional Scene Reconstruction -- Integrated Frameworks for Three-dimensional Scene Reconstruction -- Part II: Application Scenarios -- Applications to Industrial Quality Inspection -- Applications to Safe Human–Robot Interaction -- Applications to Lunar Remote Sensing -- Conclusion.
	Sommario/riassunto	This indispensable text introduces the foundations of three-dimensional computer vision and describes recent contributions to the field. Fully revised and updated, this much-anticipated new edition reviews a range of triangulation-based methods, including linear and bundle adjustment based approaches to scene reconstruction and camera calibration, stereo vision, point cloud segmentation, and pose estimation of rigid, articulated, and flexible objects. Also covered are intensity-based techniques that evaluate the pixel grey values in the

image to infer three-dimensional scene structure, and point spread function based approaches that exploit the effect of the optical system. The text shows how methods which integrate these concepts are able to increase reconstruction accuracy and robustness, describing applications in industrial quality inspection and metrology, human-robot interaction, and remote sensing. Practitioners of computer vision, photogrammetry, optical metrology, robotics and planetary science will find the book an essential reference. Key Topics Examines three-dimensional surface reconstruction of strongly non-Lambertian surfaces by the combination of photometric stereo and active range scanning, with applications to industrial metrology (NEW) Discusses pose estimation and tracking of human body parts, and subsequent recognition of actions performed in a complex industrial production environment, in the context of safe interaction between humans and industrial robots (NEW) Reviews the construction of high-resolution lunar digital elevation models based on orbital imagery in combination with laser altimetry data, including a discussion of the latest lunar spacecraft data sets (NEW).