Record Nr. UNINA9911020050403321 Autore Cyganek Bogusaw Titolo An introduction to 3D computer vision techniques and algorithms // Bogusaw Cyganek, J. Paul Siebert Chichester, U.K., : John Wiley & Sons, 2009 Pubbl/distr/stampa **ISBN** 9786612034220 9781119964476 1119964474 9781282034228 1282034227 9780470699720 0470699728 9780470714447 0470714441 Edizione [1st ed.] Descrizione fisica 1 online resource (514 p.) Altri autori (Persone) SiebertJ. Paul Disciplina 006.3/7 Soggetti Computer vision Three-dimensional imaging Computer algorithms Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references (p. [459]-474) and index. Nota di contenuto AN INTRODUCTION TO 3D COMPUTER VISION TECHNIQUES AND ALGORITHMS; Contents; Preface; Acknowledgements; Notation and Abbreviations; Part I; 1 Introduction; 2 Brief History of Research on Vision; Part II; 3 2D and 3D Vision Formation; 4 Low-level Image Processing for Image Matching; 5 Scale-space Vision; 6 Image Matching Algorithms: 7 Space Reconstruction and Multiview Integration: 8 Case Examples: Part III: 9 Basics of the Projective Geometry: 10 Basics of Tensor Calculus for Image Processing; 11 Distortions and Noise in

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Computer vision encompasses the construction of integrated vision

systems and the application of vision to problems of real-world importance. The process of creating 3D models is still rather difficult, requiring mechanical measurement of the camera positions or manual alignment of partial 3D views of a scene. However using algorithms, it is possible to take a collection of stereo-pair images of a scene and then automatically produce a photo-realistic, geometrically accurate digital 3D model. This book provides a comprehensive introduction to the methods, theories and algorithms of 3D com