1.	Record Nr.	UNINA9910484100003321
	Titolo	Robot Vision : Second International Workshop, RobVis 2008, Auckland, New Zealand, February 18-20, 2008, Proceedings / / edited by Gerald Sommer, Reinhard Klette
	Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2008
	ISBN	3-540-78157-9
	Edizione	[1st ed. 2008.]
	Descrizione fisica	1 online resource (XI, 472 p.)
	Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics, , 3004-9954 ; ; 4931
	Disciplina	629.892637
	Soggetti	Computer science Control engineering Robotics Automation Computer vision Pattern recognition systems Artificial intelligence Computer graphics Theory of Computation Control, Robotics, Automation Computer Vision Automated Pattern Recognition Artificial Intelligence Computer Graphics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Includes index.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Motion Analysis -- Dynamic Multiresolution Optical Flow Computation -- Particle-Based Belief Propagation for Structure from Motion and Dense Stereo Vision with Unknown Camera Constraints -- Stereo Vision -- Integrating Disparity Images by Incorporating Disparity Rate -- Towards Optimal Stereo Analysis of Image Sequences -- Fast Line-Segment Extraction for Semi-dense Stereo Matching -- High Resolution

Stereo in Real Time -- Robot Vision -- Stochastically Optimal Epipole Estimation in Omnidirectional Images with Geometric Algebra -- Modeling and Tracking Line-Constrained Mechanical Systems -- Stereo Vision Local Map Alignment for Robot Environment Mapping -- Markerless Augmented Reality for Robotic Helicoptor Applications -- Facial Expression Recognition for Human-Robot Interaction – A Prototype -- Computer Vision -- Iterative Low Complexity Factorization for Projective Reconstruction -- Accurate Image Matching in Scenes Including Repetitive Patterns -- Camera Self-calibration under the Constraint of Distant Plane -- Visual Inspection -- An Approximate Algorithm for Solving the Watchman Route Problem -- Bird's-Eye View Vision System for Vehicle Surrounding Monitoring -- Road-Signs Recognition System for Intelligent Vehicles -- Situation Analysis and Atypical Event Detection with Multiple Cameras and Multi-Object Tracking -- Urban Vision -- Team AnnieWAY's Autonomous System -- The Area Processing Unit of Caroline - Finding the Way through DARPA's Urban Challenge -- Sensor Architecture and Data Fusion for Robotic Perception in Urban Environments at the 2007 DARPA Urban Challenge -- Poster Session -- Belief-Propagation on Edge Images for Stereo Analysis of Image Sequences -- Real-Time Hand and Eye Coordination for Flexible Impedance Control of Robot Manipulator -- MFC - A Modular Line Camera for3D World Modulling -- 3D Person Tracking with a Color-Based Particle Filter -- Terrain-Based Sensor Selection for Autonomous Trail Following -- Generic Object Recognition Using Boosted Combined Features -- Stereo Vision Based Self-localization of Autonomous Mobile Robots -- Robust Ellipsoidal Model Fitting of Human Heads -- Hierarchical Fuzzy State Controller for Robot Vision -- A New Camera Calibration Algorithm Based on Rotating Object -- Visual Navigation of Mobile Robot Using Optical Flow and Visual Potential Field -- Behavior Based Robot Localisation Using Stereo Vision -- Direct Pose Estimation with a Monocular Camera -- Differential Geometry of Monogenic Signal Representations.

Sommario/riassunto	In 1986, B.K.P. Horn published a book entitled Robot Vision, which actually discussed a wider ?eld of subjects, basically addressing the ?eld of computer vision, but introducing "robot vision" as a technical term. Since then, the - teraction between computer vision and research on mobile systems (often called "robots", e.g., in an industrial context, but also including vehicles, such as cars, wheelchairs, tower cranes, and so forth) established a diverse area of research, today known as robot vision. Robot vision (or, more general, robotics) is a fast-growing discipline, already taught as a dedicated teaching program at university level. The term "robot vision" addresses any autonomous behavior of a technical system supported by visual sensoric information. While robot vision focusses on the vision process, visual robotics is more directed toward control and automatization. In practice, however, both ?elds strongly interact. Robot Vision 2008 was the second international workshop, counting a 2001 workshop with identical name as the ?rst in this series. Both workshops were organized in close cooperation between researchers from New Zealand and Germany, and took place at The University of Auckland, New Zealand. Participants of the 2008 workshop came from Europe, USA, South America, the Middle East, the Far East, Australia, and of course from New Zealand.