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Descrizione fisica	1 online resource (IX, 329 p.)
Collana	Image Processing, Computer Vision, Pattern Recognition, and Graphics ; ; 4358
Disciplina	006.37
Soggetti	Optical data processing Pattern recognition Computer graphics User interfaces (Computer systems) Image Processing and Computer Vision Pattern Recognition Computer Graphics User Interfaces and Human Computer Interaction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"24 contributions presented at the First and Second International Workshops on Dynamical Vision, WDV 2006 and WDV 2006, which were held in conjunction with the 10th International Conference on Computer Vision (ICCV 2005) and 9th European Conference on Computer Vision (ECCV 2006), respectively"--Preface.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Motion Segmentation and Estimation -- The Space of Multibody Fundamental Matrices: Rank, Geometry and Projection -- Direct Segmentation of Multiple 2-D Motion Models of Different Types -- Motion Segmentation Using an Occlusion Detector -- Robust 3D Segmentation of Multiple Moving Objects Under Weak Perspective -- Nonparametric Estimation of Multiple Structures with Outliers --

Human Motion Analysis, Tracking and Recognition -- Articulated Motion Segmentation Using RANSAC with Priors -- Articulated-Body Tracking Through Anisotropic Edge Detection -- Homeomorphic Manifold Analysis: Learning Decomposable Generative Models for Human Motion Analysis -- View-Invariant Modeling and Recognition of Human Actions Using Grammars -- Dynamic Textures -- Segmenting Dynamic Textures with Ising Descriptors, ARX Models and Level Sets -- Spatial Segmentation of Temporal Texture Using Mixture Linear Models -- Online Video Registration of Dynamic Scenes Using Frame Prediction -- Dynamic Texture Recognition Using Volume Local Binary Patterns -- Motion Tracking -- A Rao-Blackwellized Parts-Constellation Tracker -- Bayesian Tracking with Auxiliary Discrete Processes. Application to Detection and Tracking of Objects with Occlusions -- Tracking of Multiple Objects Using Optical Flow Based Multiscale Elastic Matching -- Real-Time Tracking with Classifiers -- Rigid and Non-rigid Motion Analysis -- A Probabilistic Framework for Correspondence and Egomotion -- Estimating the Pose of a 3D Sensor in a Non-rigid Environment -- A Batch Algorithm for Implicit Non-rigid Shape and Motion Recovery -- Motion Filtering and Vision-Based Control -- Using a Connected Filter for Structure Estimation in Perspective Systems -- Recursive Structure from Motion Using Hybrid Matching Constraints with Error Feedback -- Force/Vision Based Active Damping Control of Contact Transition in Dynamic Environments -- Segmentation and Guidance of Multiple Rigid Objects for Intra-operative Endoscopic Vision.

Sommario/riassunto

Classical multiple-view geometry studies the reconstruction of a static scene - served by a rigidly moving camera. However, in many real-world applications the scene may undergo much more complex dynamical changes. For instance, the scene may consist of multiple moving objects (e.g., a traffic scene) or articulated motions (e.g., a walking human) or even non-rigid dynamics (e.g., smoke, fire, or a waterfall). In addition, some applications may require interaction with the scene through a dynamical system (e.g., vision-guided robot navigation and coordination). To study the problem of reconstructing dynamical scenes, many new algebraic, geometric, statistical, and computational tools have recently emerged in computer vision, computer graphics, image processing, and vision-based control. The goal of the International Workshop on Dynamical Vision (WDV) is to converge different aspects of the research on dynamical vision and to identify common mathematical problems, models, and methods for future research in this emerging and active area.
