1. Record Nr. UNISA996466104503316

Titolo	Geometric Reasoning for Perception and Action [[electronic resource]] : Workshop. Grenoble, France, September 16-17, 1991. Selected Papers / / edited by Christian Laugier
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1993
ISBN	3-540-47913-9
Edizione	[1st ed. 1993.]
Descrizione fisica	1 online resource (VIII, 288 p.)
Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 708
Disciplina	006.3/7/01516
Soggetti	Robotics Automation Optical data processing Computer graphics Artificial intelligence Control engineering Mechatronics Engineering economics Engineering economy Robotics and Automation Image Processing and Computer Vision Computer Graphics Artificial Intelligence Control, Robotics, Mechatronics Engineering Economics, Organization, Logistics, Marketing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Shortest paths of bounded curvature in the plane -- Kinodynamic planning in a structured and time-varying workspace -- Motion planning for a non-holonomic mobile robot on 3-dimensional terrains -- Optimal motion planning of a mobile robot on a triangulated terrain model -- Landmark-based robot motion planning -- Using genetic algorithms for robot motion planning -- Fast mobile robots in

unstructured environments -- A new approach to visual servoing in robotics -- Geometric solutions to some 3D vision problems -- Geometrical representation of shapes and objects for visual perception -- Perceptual grouping for scene interpretation in an active vision system -- Incremental free-space modelling from uncertain data by an autonomous mobile robot -- Matching 3-D smooth surfaces with their 2-D projections using 3-D distance maps -- A new physically based model for efficient tracking and analysis of deformations -- From splines and snakes to snake splines.

Sommario/riassunto

Geometry is a powerful tool to solve a great number of problems in robotics and computer vision. Impressive results have been obtained in these fields in the last decade. It is a new challenge to solve problems of the actual world which require the ability to reason about uncertainty and complex motion constraints by combining geometric, kinematic, and dynamic characteristics. A necessary step is to develop appropriate geometric reasoning techniques with reasonable computational complexity. This volume is based on a workshop held in Grenoble, France,in September 1991. It contains selected contributions on several important areas in the field of robotics and computer vision. The four chapters cover the following areas: - motion planning with kinematic and dynamic constraints, - motion planning and control in the presence of uncertainty, - geometric problems related to visual perception, -numerical problems linked to the implementation of practical algorithms for visual perception.