1. Record Nr. UNINA9911006975403321

Autore	Kolodko Julian
Titolo	Motion vision : design of compact motion sensing solutions for autonomous systems navigation / / by Julian Kolodko and Ljubo Vlacic
Pubbl/distr/stampa	London, : Institution of Electrical Engineers, c2005
ISBN	1-281-97095-6 9786611970956 0-86341-158-4 1-60119-089-1
Descrizione fisica	1 online resource (458 p.)
Collana	IEE control engineering series ; ; v. 67
Altri autori (Persone)	VlacicLjubo
Disciplina	629.8315
Soggetti	Motion - Measurement Detectors - Design and construction Motion control devices - Design and construction
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. [395]-415) and index.
Nota di contenuto	Contents; Preface; List of abbreviations; Symbols; Typographical conventions; Acknowledgements; 1 Introduction; PART 1 - BACKGROUND; 2 Mathematical preliminaries; 3 Motion estimation; PART2 - ALGORITHM DEVELOPMENT; 4 Real-time motion processing; 5 Motion estimation for autonomous navigation; PART3 - HARDWARE; 6 Digital design; 7 Sensor implementation; PART4 - APPENDICES; A System timing; B SDRAM timing; C FPGA design; D Simulation of range data; Bibliography; Index
Sommario/riassunto	This comprehensive new book deals with motion estimation for autonomous systems from a biological, algorithmic and digital perspective. An algorithm, which is based on the optical flow constraint equation, is described in detail. This algorithm fits with the motion processing model, hardware and software constraints and resolves depth-velocity ambiguity, which is critical for autonomous navigation. There is also extensive coverage on the use of this algorithm in digital hardware and describes both the initial motion processing model, the chosen hardware platforms, and the global function of th