Record Nr.	UNINA9910510603403321
Titolo	Intelligent Robotics and Applications : 4th International Conference, ICIRA 2011, Aachen, Germany, December 6-8, 2011, Proceedings, Part I // edited by Sabina Jeschke, Honghai Liu, Daniel Schilberg
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2011
ISBN	3-642-25486-1
Edizione	[1st ed. 2011.]
Descrizione fisica	1 online resource (XXIV, 643 p.)
Collana	Lecture Notes in Artificial Intelligence ; ; 7101
Disciplina	629.892
Soggetti	Artificial intelligence
	Optical data processing
	Pattern recognition
	Application software
	Computer communication systems
	Artificial Intelligence
	Image Processing and Computer Vision
	Pattern Recognition
	Computer Graphics
	Information Systems Applications (Incl. Internet)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Intro Title Preface Organization Table of Contents Progress in Indoor UAV On the Way to a Real-Time On-Board Orthogonal SLAM for an Indoor UAV Introduction Introductive System Description SLAM Algorithm Indoor Navigation Experimental SLAM Results Conclusion References Quadrocopter Localization Using RTK-GPS and Vision-Based Trajectory Tracking Introduction Characteristics of the Flight Platform Sensors and Hardware Equipment Software Differential GPS Real Time Kinematic GPS Measurements Position Control and

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Sommario/riassunto	The two volume set LNAI 7101 and LNAI 7102 constitutes the refereed proceedings of the 4th International Conference on Intelligent Robotics and Applications, ICIRA 2011, held in Aachen, Germany, in November 2011. The 122 revised full papers presented were thoroughly reviewed and selected from numerous submissions. They are organized in topical sections on progress in indoor UAV, robotics intelligence, industrial robots, rehabilitation robotics, mechanisms and their applications, multi robot systems, robot mechanism and design, parallel kinematics, parallel kinematics machines and parallel robotics, handling and manipulation, tangibility in human-machine interaction, navigation and localization of mobile robot, a body for the brain: embodied intelligence in bio-inspired robotics, intelligent visual systems, self-optimising production systems, computational intelligence, robot control systems, human-robot interaction, manipulators and applications, stability, dynamics and interpolation, evolutionary robotics, bio-inspired robotics, and image-processing applications.