

1. Record Nr.	UNINA9910809747903321
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Titolo	Evolutionary robotics : from algorithms to implementations // Lingfeng Wang, Kay Chen Tan, Chee Meng Chew
Pubbl/distr/stampa	New Jersey, : World Scientific Publishing, c2006
ISBN	1-281-37329-X 9786611373290 981-277-314-2
Edizione	[1st ed.]
Descrizione fisica	1 online resource (267 p.)
Collana	World Scientific series in robotics and intelligent systems ; ; v. 28
Altri autori (Persone)	TanK. C ChewChee Meng
Disciplina	629.892
Soggetti	Evolutionary robotics Robotics
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 and index.
Nota di contenuto	Contents ; Preface ; 1. Artificial Evolution Based Autonomous Robot Navigation ; 1.1 Introduction ; 1.2 Evolutionary Robotics ; 1.3 Adaptive Autonomous Robot Navigation ; 1.4 Artificial Evolution in Robot Navigation ; 1.4.1 Neural Networks ; 1.4.2 Evolutionary Algorithms ; 1.4.3 Fuzzy Logic ; 1.4.4 Other Methods ; 1.5 Open Issues and Future Prospects ; 1.5.1 SAGA ; 1.5.2 Combination of Evolution and Learning ; 1.5.3 Inherent Fault Tolerance ; 1.5.4 Hardware Evolution ; 1.5.5 On-Line Evolution ; 1.5.6 Ubiquitous and Collective Robots ; 1.6 Summary Bibliography 2. Evolvable Hardware in Evolutionary Robotics ; 2.1 Introduction ; 2.2 Evolvable Hardware ; 2.2.1 Basic Concept of EHW ; 2.2.2 Classification of EHW ; 2.2.2.1 Artificial evolution and hardware device ; 2.2.2.2 Evolution process

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Sommario/riassunto

This invaluable book comprehensively describes evolutionary robotics and computational intelligence, and how different computational intelligence techniques are applied to robotic system design. It embraces the most widely used evolutionary approaches with their merits and drawbacks, presents some related experiments for robotic behavior evolution and the results achieved, and shows promising future research directions. Clarity of explanation is emphasized such that a modest knowledge of basic evolutionary computation, digital circuits and engineering design will suffice for a thorough unders
