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| Autore                  | Frasca Mattia  |
| Titolo                  | Bio-inspired emergent control of locomotion systems [[electronic resource] /] / Mattia Frasca, Paolo Arena, Luigi Fortuna  |
| Pubbl/distr/stampa      | River Edge, N.J. ; ; London, : World Scientific, c2004   |
| ISBN                    | 1-281-34761-2<br>9786611347611<br>981-256-230-3  |
| Descrizione fisica      | 1 online resource (211 p.)   |
| Collana                 | World Scientific series on nonlinear science. Series A ; ; v. 48   |
| Altri autori (Persone)  | ArenaPaolo <1966-><br>FortunaL <1953-> (Luigi)   |
| Disciplina              | 629.8932   |
| Soggetti                | Robotics<br>Mobile robots<br>Neural networks (Computer science)<br>Electronic books.   |
| 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       | Preliminaries; Preface; Contents; 1. Introduction; 2. CNN-based Central Pattern Generators; 3. CNN-based CPGs with sensory feedback and VLSI implementation; 4. Decentralized locomotion control; 5. A gallery of bio-inspired robots; 6. High-level analog control: attitude control and Motor Maps; 7. High-level analog control: Turing patterns and autowaves; 8. Conclusions; Appendix A HexaDyn and CNNTLab: two tools for bio-inspired locomotion control; Appendix B Design of the CNN circuit; Appendix C A Chaos-based sensor for bio-inspired robots; References; Index |
| Sommario/riassunto      | This book deals with locomotion control of biologically inspired robots realized through an analog circuit paradigm as cellular nonlinear networks. It presents a general methodology for the control of bio-inspired robots and several case studies, as well as describes a new approach to motion control and the related circuit architecture.   |