Record Nr. UNINA9910337621503321 Cognitive Architectures / / edited by Maria Isabel Aldinhas Ferreira, **Titolo** João Silva Sequeira, Rodrigo Ventura Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2019 **ISBN** 3-319-97550-1 Edizione [1st ed. 2019.] Descrizione fisica 1 online resource (290 pages) Collana Intelligent Systems, Control and Automation: Science and Engineering, , 2213-8986;;94 Disciplina 006.3 Soggetti Computational complexity Robotics Automation Artificial intelligence Neural networks (Computer science) Complexity Robotics and Automation Artificial Intelligence Mathematical Models of Cognitive Processes and Neural Networks Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. I. Introduction -- II. Insights from Natural Cognition -- 2.1. Simple Nota di contenuto Systems -- 2.2. Complex Systems -- III. Artificial Cognition -- 3.1. Robotics -- 3.2. Artificial Life Forms -- IV Merging Natural and Artificial Cognition -- 4.1. Enhancing Animal Cognition: The Case of Cyberdogs -- 4.2. Constructing Artificial Environments -- V. Conclusions. Sommario/riassunto This book provides an integrated framework for natural and artificial cognition by highlighting the fundamental role played by the cognitive architecture in the dialectics with the surrounding environment and consequently in the definition of a particular meaningful world. This book is also about embodied and non-embodied artificial systems, cognitive architectures that are human constructs, meant to be able to

populate the human world, capable of identifying different life contexts

and replicating human patterns of behavior capable of acting according to human values and conventions, systems that perform tasks in a human-like way. By identifying the essential phenomena at the core of all forms of cognition, the book addresses the topic of design of artificial cognitive architectures in the domains of robotics and artificial life. Moving from mere bio-inspired design methodology it aims to open a pathway to semiotically determined design.