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Titolo	Hybrid Neural Systems // edited by Stefan Wermter, Ron Sun
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Descrizione fisica	1 online resource (XI, 401 p.)
Collana	Lecture Notes in Artificial Intelligence ; ; 1778
Disciplina	006.3/2
Soggetti	Neurosciences Artificial intelligence Computers Microprocessors Artificial Intelligence Computation by Abstract Devices Processor Architectures
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	An Overview of Hybrid Neural Systems -- An Overview of Hybrid Neural Systems -- Structured Connectionism and Rule Representation -- Layered Hybrid Connectionist Models for Cognitive Science -- Types and Quantifiers in SHRUTI – A Connectionist Model of Rapid Reasoning and Relational Processing -- A Recursive Neural Network for Reflexive Reasoning -- A Novel Modular Neural Architecture for Rule-Based and Similarity-Based Reasoning -- Addressing Knowledge-Representation Issues in Connectionist Symbolic Rule Encoding for General Inference -- Towards a Hybrid Model of First-Order Theory Refinement -- Distributed Neural Architectures and Language Processing -- Dynamical Recurrent Networks for Sequential Data Processing -- Fuzzy Knowledge and Recurrent Neural Networks: A Dynamical Systems Perspective -- Combining Maps and Distributed Representations for Shift-Reduce Parsing -- Towards Hybrid Neural Learning Internet Agents -- A Connectionist Simulation of the Empirical Acquisition of Grammatical Relations -- Large Patterns Make Great Symbols: An

Example of Learning from Example -- Context Vectors: A Step Toward a "Grand Unified Representation" -- Integration of Graphical Rules with Adaptive Learning of Structured Information -- Transformation and Explanation -- Lessons from Past, Current Issues, and Future Research Directions in Extracting the Knowledge Embedded in Artificial Neural Networks -- Symbolic Rule Extraction from the DIMLP Neural Network -- Understanding State Space Organization in Recurrent Neural Networks with Iterative Function Systems Dynamics -- Direct Explanations and Knowledge Extraction from a Multilayer Perceptron Network that Performs Low Back Pain Classification -- High Order Eigentensors as Symbolic Rules in Competitive Learning -- Holistic Symbol Processing and the Sequential RAAM: An Evaluation -- Robotics, Vision and Cognitive Approaches -- Life, Mind, and Robots -- Supplementing Neural Reinforcement Learning with Symbolic Methods -- Self-Organizing Maps in Symbol Processing -- Evolution of Symbolisation: Signposts to a Bridge between Connectionist and Symbolic Systems -- A Cellular Neural Associative Array for Symbolic Vision -- Application of Neurosymbolic Integration for Environment Modelling in Mobile Robots.

Sommario/riassunto

Hybrid neural systems are computational systems which are based mainly on artificial neural networks and allow for symbolic interpretation or interaction with symbolic components. This book is derived from a workshop held during the NIPS'98 in Denver, Colorado, USA, and competently reflects the state of the art of research and development in hybrid neural systems. The 26 revised full papers presented together with an introductory overview by the volume editors have been through a twofold process of careful reviewing and revision. The papers are organized in the following topical sections: structured connectionism and rule representation; distributed neural architectures and language processing; transformation and explanation; robotics, vision, and cognitive approaches.
