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Solving + Perception in a Graphical Cognitive Architecture; From Biology to Inspiration and Back: Is the Pallidal Complex a Reservoir?; Architectures of Complex Learning Systems; The Role of the Predicted Present in Artificial and Natural Cognitive Systems
Evolving Neural Networks for Artificial Intelligence
Data Formats in Multineuronal Systems and Brain Reverse Engineering; Parallel and Serial Components in Human-Like Intelligence; Narrative Is a Key Cognitive Competency; Automatic Verb Valency Pattern Recognition; Vision and Emotional Flow in a Cognitive Architecture for Human-Machine Interaction; Cognitive Meta-Learning of Syntactically Inferred Concepts; Integrative General Intelligence for Controlling Game AI in a Minecraft-Like Environment; ASKNet: Leveraging Bio-Cognitive Models in Natural Language Processing
Human-Artificial-Intelligence Hybrid Learning Systems
The What, Why and How of the BI in BICA; On the Simulation of Human Frailty; Adaptive Recall in Hippocampus; A Conceptual Space Architecture for Widely Heterogeneous Robotic Systems; From Repetition Suppression in Stroop to Backward Inhibition in Task Switching: An Example of Model Reusability; Modeling Temporal Dynamics with Function Approximation in Deep Spatio-Temporal Inference Network; Conscious Expectation System; The Roots of Trust: Cognition Beyond Rational; Four Processing Modes of in situ Human Behavior
SPIRE - A BICA-Emulated Strategic Decision Support System
Recognizing Geospatial Patterns with Biologically-Inspired Relational Reasoning; Neuromorphic and Brain-Based Robots; Development of a Robot that Cognizes and Learns Unknown Events; Computational Hypothesis for Maturing Out of Addiction and Mindfulness-Based Cognitive Techniques; Does Radical Externalism Suggest How to Implement Machine Consciousness?; Anthropological, Socio-Biological Framework as Master Architect of Human Cognitive Architectures; IARPA's ICARUS Program: Brain-Inspired Cognitive Models for Intelligence Analysis
Towards a Biologically Inspired Question-Answering Neural Architecture

Sommario/riassunto

This book presents the proceedings of the Annual International Conference on Biologically Inspired Cognitive Architectures, BICA 2011, which is also the Second Annual Meeting of the BICA Society, held in November 2011 in Arlington, Virginia, USA. A Biologically Inspired Cognitive Architecture (BICA) is a computational framework for the design of intelligent agents that incorporates formal mechanisms of human or animal cognition. Biology currently provides the only physical examples of cognitive systems at the level of robustness, flexibility, scalability and consciousness that artificial intel
