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Nota di contenuto	Chapter 1. Introduction: Psychology and Technology -- Chapter 2. Systems-Level Thinking for Artificial Intelligent Systems -- Chapter 3. Psychological Constructs for AI Systems: The Information Continuum -- Chapter 4. Human-AI Collaboration -- Chapter 5. Abductive Artificial Intelligence Learning Models -- Chapter 6. Artificial Creativity and Self-Evolution: Abductive Reasoning in Artificial Life Forms -- Chapter 7. Artificial Intelligent Inferences utilizing Occam Abduction -- Chapter 8. Artificial Neural Diagnostics and Prognostics: Self-Soothing in Cognitive Systems -- Chapter 9. Ontology-Based Knowledge Management for Artificial Intelligent Systems -- Chapter 10. Cognitive Control of Self-Evolving Life Forms (SELF) utilizing Artificial Procedural Memories -- Chapter 11. Methodologies for Continuous, Life-Long Machine Learning for AI Systems -- Chapter 12. Implicit Learning in Artificial Intelligence -- Chapter 13. Data Analytics: The Big Data Analytics

Process (BDAP) Architecture -- Chapter 14. Conclusions and Next Steps.

Sommario/riassunto

This book explores the subject of artificial psychology and how the field must adapt human neuro-psychological testing techniques to provide adequate cognitive testing of advanced artificial intelligence systems. It shows how classical testing methods will reveal nothing about the cognitive nature of the systems and whether they are learning, reasoning, and evolving correctly; for these systems, the authors outline how testing techniques similar to/adapted from human psychological testing must be adopted, particularly in understanding how the system reacts to failure or relearning something it has learned incorrectly or inferred incorrectly. The authors provide insights into future architectures/capabilities that artificial cognitive systems will possess and how we can evaluate how well they are functioning. It discusses at length the notion of human/AI communication and collaboration and explores such topics as knowledge development, knowledge modeling and ambiguity management, artificial cognition and self-evolution of learning, artificial brain components and cognitive architecture, and artificial psychological modeling. Explores the concepts of Artificial Psychology and Artificial Neuroscience as applied to advanced artificially cognitive systems; Provides insight into the world of cognitive architectures and biologically-based computing designs which will mimic human brain functionality in artificial intelligent systems of the future; Provides description and design of artificial psychological modeling to provide insight into how advanced artificial intelligent systems are learning and evolving; Explores artificial reasoning and inference architectures and the types of modeling and testing that will be required to "trust" an autonomous artificial intelligent systems.