Contents

Integrating Disparate Knowledge Representations within 4D/RCS / 1
J. Albus, C. Schlenoff, R. Madhavan, S. Balakirsky, and T. Barbera

"Pulling it All Together" via Psychometric AI / 9
Selmer Bringsjord and Bettina Schimanski

Principles of Collaborative Coordination: An Agenda for Furthering Interactive Computational Intelligence / 17
Derek Brock

A Cognitively-Oriented Architecture Confronts Hard Problems / 22
Susan L. Epstein

Companion Cognitive Systems: A Step towards Human-Level AI / 30
Kenneth D. Forbus and Thomas R. Hinrichs

The Common Ground of Constraint Satisfaction / 35
Eugene C. Freuder

Engines of the Brain: The Computational "Instruction Set" of Perception and Cognition / 36
R. Granger, S. Petrovic, A. Felch, J. Kerr, M. Johnson, C. Wuerth, and J. Benvenuto

Reinforcement Learning as a Context for Integrating AI Research / 44
Bill Hibbard

Comparative Analysis of Frameworks for Knowledge-Intensive Intelligent Agents / 47
Randolph M. Jones and Robert E. Wray

Novamente: An Integrative Architecture for General Intelligence / 54
Moshe Looks, Ben Goertzel, and Cassio Pennachin

Viewing Vision-Language Integration as a Double-Grounding Case / 62
Katerina Pastra

Towards Virtual Humans / 70
William Swartout, Jonathan Gratch, Randall Hill, Eduard Hovy, Stacy Marsella, Jeff Rickel, and David Traum

Self Trained Artificial Neural Network / 78
Vikramaditya Reddy.J.

Toward a Unified Artificial Intelligence / 83
Pei Wang