

Contents

<i>Preface</i>	<i>page</i> vii
<i>List of Contributors</i>	x
Part I: Introduction	1
1 An Overview of Computational Cognitive Sciences RON SUN	3
Part II: Cognitive Modeling Paradigms	27
2 Connectionist Models of Cognition MICHAEL S. C. THOMAS AND JAMES L. MCCLELLAND	29
3 Bayesian Models of Cognition THOMAS L. GRIFFITHS, CHARLES KEMP, AND JOSHUA B. TENENBAUM	80
4 Symbolic and Hybrid Models of Cognition TAREK R. BESOLD AND KAI-UWE KÜHNBERGER	139
5 Logic-Based Modeling of Cognition SELMER BRINGSJORD, MICHAEL GIANCOLA, AND NAVEEN SUNDAR GOVINDARAJULU	173
6 Dynamical Systems Approaches to Cognition GREGOR SCHÖNER	210
7 Quantum Models of Cognition JEROME R. BUSEMEYER AND EMMANUEL M. POTROS	242
8 Constraints in Cognitive Architectures NIELS TAATGEN AND JOHN ANDERSON	275
9 Deep Learning MARCO GORI, FRÉDÉRIC PRECIOSO, AND EDMONDO TRENTIN	301
10 Reinforcement Learning KENJI DOYA	350

Part III: Computational Modeling of Basic Cognitive Functionalities	<i>Edited by</i>	371
11 Computational Models of Categorization KENNETH J. KURTZ		373
12 Computational Cognitive Neuroscience Models of Categorization F. GREGORY ASHBY AND YI-WEN WANG		400
13 Models of Inductive Reasoning BRETT K. HAYES		426
14 Analogy and Similarity JOHN E. HUMMEL AND LEONIDAS A. A. DOUMAS		451
15 Mental Models and Algorithms of Deduction PHILIP N. JOHNSON-LAIRD AND SANDEEP S. KHEMLANI		474
16 Computational Models of Decision Making JOSEPH G. JOHNSON AND JEROME R. BUSEMEYER		499
17 Computational Models of Skill Acquisition STELLAN OHLSSON		527
18 Computational Models of Episodic Memory PER B. SEDERBERG AND KEVIN P. DARBY		567
19 Computational Neuroscience Models of Working Memory THOMAS E. HAZY, MICHAEL J. FRANK, AND RANDALL C. O'REILLY		611
20 Neurocomputational Models of Cognitive Control DEBBIE M. YEE AND TODD S. BRAVER		664
21 Computational Models of Animal and Human Associative Learning EVAN J. LIVESEY		716
22 Computational Cognitive Models of Reinforcement Learning KENJI DOYA		739