Contents

Resource-Adaptive Cognitive Processes ................................. 1
Jörg Siekmann and Matthew W. Crocker

Part I Resource-Bounded Cognitive Processes in Human Information Processing

Visuo-spatial Working Memory as a Limited Resource of Cognitive Processing ......................................................... 13
Hubert D. Zimmer, Stefan Münzer, and Katja Umla-Runge

From Resource-Adaptive Navigation Assistance to Augmented Cognition 35
Hubert D. Zimmer, Stefan Münzer, and Jörg Baus

Error-Induced Learning as a Resource-Adaptive Process in Young and Elderly Individuals ................................................. 55
Nicola K. Ferdinand, Anja Weiten, Axel Mecklinger, and Jutta Kray

An ERP-Approach to Study Age Differences in Cognitive Control Processes .......................................................... 77
Jutta Kray and Ben Eppinger

Timo von Oertzen, Paolo Ghisletta, and Ulman Lindenberger

Conflicting Constraints in Resource-Adaptive Language Comprehension . 119
Andrea Weber, Matthew W. Crocker, and Pia Knoeferle

The Evolution of a Connectionist Model of Situated Human Language Understanding ..................................................... 143
Marshall R. Mayberry and Matthew W. Crocker
Part II  Resource-Adaptive Processes in Human–Machine Interaction

Assessment of a User’s Time Pressure and Cognitive Load on the Basis of Features of Speech ........................................... 171
Anthony Jameson, Juergen Kiefer, Christian Müller, Barbara Großmann-Hutter, Frank Wittig, and Ralf Rummer

The Shopping Experience of Tomorrow: Human-Centered and Resource-Adaptive ......................................................... 205
Wolfgang Wahlster, Michael Feld, Patrick Gebhard, Dominikus Heckmann, Ralf Jung, Michael Kruppa, Michael Schmitz, Lübomira Spassova, and Rainer Wasinger

Seamless Resource-Adaptive Navigation ........................................ 239
Tim Schwartz, Christoph Stahl, Jörg Baus, and Wolfgang Wahlster

Linguistic Processing in a Mathematics Tutoring System: Cooperative Input Interpretation and Dialogue Modelling .................. 267
Magdalena Wolska, Mark Buckley, Helmut Horacek, Ivana Kruijff-Korbayová, and Manfred Pinkal

Resource-Bounded Modelling and Analysis of Human-Level Interactive Proofs ........................................................... 291
Christoph Benzmüller, Marvin Schiller, and Jörg Siekmann

Part III  Resource-Adaptive Rationality in Machines

Comparison of Machine Learning Techniques for Bayesian Networks for User-Adaptive Systems ......................................... 315
Frank Wittig

Scope Underspecification with Tree Descriptions: Theory and Practice ... 337
Alexander Koller, Stefan Thater, and Manfred Pinkal

Dependency Grammar: Classification and Exploration .................. 365
Ralph Debusmann and Marco Kuhlmann

ΩMEGA: Resource-Adaptive Processes in an Automated Reasoning System ................................................................. 389
Serge Autexier, Christoph Benzmüller, Dominik Dietrich, and Jörg Siekmann
Resource-Adaptive Cognitive Processes
Crocker, M.W.; Siekmann, J. (Eds.)
2010, XII, 424 p. 151 illus., 72 illus. in color., Hardcover
ISBN: 978-3-540-89407-0