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

**Simulating Statistical Power in Latent Growth Curve Modeling: A Strategy for Evaluating Age-Based Changes in Cognitive Resources** 95
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, Lübomíra 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