

Contents

1	Metrics for Multiagent Systems	1
	Robert N. Lass, Evan A. Sultanik, and William C. Regli	
2	Evaluation Criteria for Human-Automation Performance Metrics	21
	Birsen Donmez, Patricia E. Pina, and M.L. Cummings	
3	Performance Evaluation Methods for Assistive Robotic Technology	41
	Katherine M. Tsui, David J. Feil-Seifer, Maja J. Matarić, and Holly A. Yanco	
4	Issues in Applying Bio-Inspiration, Cognitive Critical Mass and Developmental-Inspired Principles to Advanced Intelligent Systems	67
	Gary Berg-Cross and Alexei V. Samsonovich	
5	Evaluating Situation Awareness of Autonomous Systems	93
	Jan D. Gehrke	
6	From Simulation to Real Robots with Predictable Results: Methods and Examples	113
	S. Balakirsky, S. Carpin, G. Dimitoglou, and B. Balaguer	
7	Cognitive Systems Platforms using Open Source	139
	Patrick Courtney, Olivier Michel, Angelo Cangelosi, Vadim Tikhonoff, Giorgio Metta, Lorenzo Natale, Francesco Nori, and Serge Kernbach	
8	Assessing Coordination Demand in Cooperating Robots	169
	Michael Lewis and Jijun Wang	
9	Measurements to Support Performance Evaluation of Wireless Communications in Tunnels for Urban Search and Rescue Robots	187
	Kate A. Remley, George Hough, Galen Koepke, and Dennis Camell	

10 Quantitative Assessment of Robot-Generated Maps 221
C. Scrapper, R. Madhavan, R. Lakaemper, A. Censi,
A. Godil, A. Wagan, and A. Jacoff

**11 Mobile Robotic Surveying Performance for Planetary
Surface Site Characterization 249**
Edward Tunstel, John M. Dolan, Terrence Fong,
and Debra Schreckenghost

**12 Performance Evaluation and Metrics for Perception
in Intelligent Manufacturing 269**
Roger Eastman, Tsai Hong, Jane Shi, Tobias Hanning,
Bala Muralikrishnan, S. Susan Young, and Tommy Chang

**13 Quantification of Line Tracking Solutions for Automotive
Applications 311**
Jane Shi, Rick F. Rourke, Dave Groll, and Peter W. Tavora

Performance Evaluation and Benchmarking of
Intelligent Systems

Madhavan, R.; Tunstel, E.; Messina, E. (Eds.)

2009, XIX, 338 p., Hardcover

ISBN: 978-1-4419-0491-1