Contents

Penn State Abington “Mini Grand Challenge” Robot Competition / 1
Robert Avanzato

Good Wheel Hunting: UMass Lowell’s Scavenger Hunt Robot System / 3
Robert Casey, Andrew Chanler, Munjal Desai, Brenden Keyes, Philip Thoren,
Michael Baker, and Holly A. Yanco

Scavenging with a Laptop Robot / 11
Alan Davidson, Julian Mason, Susanna Ricco, Ben Tribelhorn, and Zachary Dodds

Building of a Heterogeneous Segway Soccer Team towards a
Peer-to-Peer Human Robot Team / 16
Yang Gu, Brenna Argall, Brett Browning, and Manuela Veloso

Upending the Uncanny Valley / 24
David Hanson, Andrew Olney, Ismar A. Pereira, and Marge Zielke

KSU Object Recognition / 32
Andrew King, Stephen Stair, Matthew Brubaker, Peter Samland, and David A. Gustafson

NavBot: The Navigational Search-and-Rescue Robot / 35
Matthew Marge, Nader Atawahi, Murtaza M. Karim, Ayman Sawas, and Chris A. Williams

Social Tag: Finding the Person with the Pink Hat / 40
Marek Michalowski, Didac Busquets, Carl DiSalvo, Laura Hiatt, Nicholas Melchior,
Reid Simmons, and Selma Sabanovic

Socially Interactive Robots for Real Life Use / 45
F. Michaud, C. Côté, D. Létourneau, Y. Brousseau, J.-M. Valin, É. Beaudry, C. Raïevsky,

From CMDash’05 to CMRoboBits: Transitioning Multi-Agent Research with
AIBOs to the Classroom / 53
Paul E. Rybski and Manuela Veloso

Toward Affective Cognitive Robots for Human-Robot Interaction / 61
M. Scheutz, P. Schermerhorn, C. Middendorff, J. Kramer, Dave Anderson, and Aaron Dingler

Identifying Challenges for Aerial Robots Operating in Near-Earth Environments / 67
Keith W. Sevcik, William E. Green and Paul Y. Oh

Tekkotsu: A Framework for AIBO Cognitive Robotics / 75
David S. Touretzky and Ethan J. Tira-Thompson