

Table of Contents

A Human-on-the-Loop Autonomy Architecture for Resident-AUV Undersea Support Infrastructure <i>Pedro Forero, LorRaine Duffy, and Eric Hendricks</i>	1
Deep Learning Workload Analysis for Efficient Resource Allocation <i>Sayaka Takayama, Takashi Shiraishi, Shigeto Suzuki, Masao Yamamoto, Yukihiro Watanabe, and Masato Oguchi</i>	8
Contingent Planning Using Counter-Examples from a Conformant Planner <i>Sebastien Piedade, Alban Grastien, Charles Lesire, and Guillaume Infantes</i>	16
On Metabolic Complex Networks for Entropic Robust Autonomy <i>Chris Nowak and Darryn Reid</i>	23
Novel Modular Self-Reconfigurable Robot for Pipe and Plant Inspection <i>Sergio Leggieri, Carlo Canali, Ferdinando Cannella, and Darwin Caldwell</i>	36
A Novel System for Grasping and Handling Flat and Deformable Objects <i>Claudio Gloriani, Isiah Zaplana, Ferdinando Cannella, Mariapaola D'Imperio, and Emanuela Cepolina</i>	41
Integration of Landmark Detection and Low-cost Sensors for Vehicle Localization in Challenging Environments <i>Yu Hsiang Wang, Jyh Ching Juang, and Muhammad Rony Hidayatullah</i>	45
Achieving Trustworthy Autonomous Systems through Autonomic and Apoptotic Computing <i>Roy Sterritt</i>	53
Reduction of Decoherence in Quantum Information Systems Using Direct Adaptive Control of Infinite Dimensional Systems <i>Mark Balas</i>	59
Data-Assisted Distributed Stabilization of Interconnected Linear Multiagent Systems without Persistency of Excitation <i>Vahid Rezaei and Margareta Stefanovic</i>	66
Projection-Based Inter-Agent Collision Avoidance in Dual Agent Systems <i>Vinod Gehlot, Mark Balas, Saptarshi Bandyopadhyay, Marco Quadrelli, and David Bayard</i>	72
Area Inspection by Robot Swarms Through Exploitation of Information Gain <i>Carlos Carbone, Dario Albani, Daniele Nardi, Dimitri Ognibene, and Vito Trianni</i>	78
Imitating Task-oriented Grasps from Human Demonstrations with a Low-DoF Gripper <i>Timothy Patten and Markus Vincze</i>	80

Semantic Segmentation for the Estimation of Plant and Soil Parameters on Agricultural Machines <i>Peter Riegler-Nurscher, Johann Prankl, and Markus Vincze</i>	87
Computation of Suitable Grasp Pose for Usage of Objects Based on Predefined Training and Real-time Pose Estimation <i>Muhammed Tawfiq Chowdhury, Shuvo Kumar Paul, Monica Nicolescu, Mircea Nicolescu, David Feil-Seifer, and Sergiu Dascalu</i>	91
Reference Detection for Off-road Self-Driving Vehicles Using Deep Learning <i>Marcelo Pederiva and Ely de Paiva</i>	97
In the Depths of Hyponymy: A Step Towards Lifelong Learning <i>Tommaso Boccato, Timothy Patten, Markus Vincze, and Stefano Ghidoni</i>	103
Towards a Unified Approach to Homography Estimation Using Image Features and Pixel Intensities <i>Lucas A. C. O. Nogueira, Ely C. Paiva, and Geraldo Silveira</i>	110