

Proceedings of EUCognition 2016

Cognitive Robot Architectures European Society for Cognitive Systems www.eucognition.org

Vienna, 8-9 December, 2016

Edited by Ron Chrisley^{*} Vincent C. Müller^{**} Yulia Sandamirskaya^{****} Markus Vincze^{*****}



CEUR-WS Vol-1855 urn:nbn:de:0074-1855-1

Copyright © 2017 for the individual papers by the papers' authors. Copying permitted for private and academic purposes. CEUR Workshop Proceedings (CEUR-WS.org)

ISSN 1613-0073

Table of Contents

| Preface | 4 |
|---|-------|
| Section 1: Full Papers | |
| Industrial Priorities for Cognitive Robotics David Vernon, Markus Vincze | 6-9 |
| An Event-Schematic, Cooperative, Cognitive Architecture Plays Super Mario Fabian Schrodt, Yves Röhm, Martin V. Butz | 10-15 |
| Representational Limits in Cognitive Architectures Antonio Lieto | 16-20 |
| Behavioral Insights on Influence of Manual Action on Object Size Perception Annalisa Bosco, Patrizia Fattori | 21-24 |
| A Role for Action Selection in Consciousness: An Investigation of a Second-Order Darwinian Mind Robert H. Wortham, Joanna J. Bryson | 25-30 |
| Architectural Requirements for Consciousness Ron Chrisley, Aaron Sloman | 31-36 |
| Section 2: Short Papers | |
| Human-Aware Interaction: A Memory-inspired Artificial Cognitive Architecture Roel Pieters, Mattia Racca, Andrea Veronese, Ville Kyrki | 38-39 |
| The Role of the Sensorimotor Loop for Cognition Bulcsú Sándor, Laura Martin, Claudius Gros | 40-41 |
| Two Ways (Not) To Design a Cognitive Architecture David Vernon | 42-43 |
| A System Layout for Cognitive Service Robots Stefan Schiffer, Alexander Ferrein | 44-45 |
| The Mirror Self-recognition for Robots Andrej Lucny | 46-47 |
| Towards Incorporating Appraisal into Emotion Recognition: A Dynamic Architecture for Intensity Estimation from Physiological Signals <i>Robert Jenke, Angelika Peer</i> | 48-49 |

| A Needs-Driven Cognitive Architecture for Future 'Intelligent' Communicative Agents <i>Roger K. Moore</i> | 50-51 |
|---|-------|
| Artificial Spatial Cognition for Robotics and Mobile Systems: Brief Survey and Current Open Challenges Paloma de la Puente, M. Guadalupe Sánchez-Escribano | 52-53 |
| Combining Visual Learning with a Generic Cognitive Model for Appliance Representation Kanishka Ganguly, Konstantinos Zampogiannis, Cornelia Fermüller, Yiannis Aloimonos | 54-55 |
| Cognitive Control and Adaptive Attentional Regulations for Robotic Task Execution <i>Riccardo Caccavale, Alberto Finzi</i> | 56-57 |
| Solve Memory to Solve Cognition Paul Baxter | 58-59 |
| ABOD3: A Graphical Visualization and Real-Time Debugging Tool for BOD Agents Andreas Theodorou | 60-61 |
| Functional Design Methodology for Customized Anthropomorphic Artificial Hands Muhammad Sayed, Lyuba Alboul, Jacques Penders | 62-63 |
| Development of an Intelligent Robotic Rein for Haptic Control and Interaction with Mobile Machines Musstafa Elyounnss, Alan Holloway, Jacques Penders, Lyuba Alboul | 64-65 |
| Section 3: Abstracts | |
| From Working Memory to Cognitive Control: Presenting a Model for their Integration in a Bio-inspired Architecture <i>Michele Persiani, Alessio Mauro Franchi, Giuseppina Gini</i> | 67-67 |
| A Physical Architecture for Studying Embodiment and Compliance: The GummiArm Martin F. Stoelen, Ricardo de Azambuja, Angelo Cangelosi, Fabio Bonsignorio | 68-68 |
| Gagarin: A Cognitive Architecture Applied to a Russian-Language Interactive Humanoid Robot Vadim Reutskiy, Nikolaos Mavridis | 69-69 |

Preface

The *European Association for Cognitive Systems* is the association resulting from the EUCog network, which has been active since 2006. It has ca. 1000 members and is currently chaired by Vincent C. Müller. We ran our annual conference on December 08-09 2016, kindly hosted by the Technical University of Vienna with Markus Vincze as local chair. The invited speakers were David Vernon and Paul F.M.J. Verschure.

Out of the 49 submissions for the meeting, we accepted 18 a papers and 25 as posters (after double-blind reviewing). Papers are published here as "full papers" or "short papers" while posters are published here as "short papers" or "abstracts".

Some of the papers presented at the conference will be published in a separate special volume on 'Cognitive Robot Architectures' with the journal *Cognitive Systems Research*.

RC, VCM, YS, MV

Section 1: Full Papers