



COGNITIVE 2010

The Second International Conference on Advanced Cognitive
Technologies and Applications

November 21-26, 2010 - Lisbon, Portugal

ComputationWorld 2010 Editors

Ali Beklen, IBM Turkey, Turkey

Jorge Ejarque, Barcelona Supercomputing Center, Spain

Wolfgang Gentzsch, EU Project DEISA, Board of Directors of OGF, Germany

Teemu Kanstren, VTT, Finland

Arne Koschel, Fachhochschule Hannover, Germany

Yong Woo Lee, University of Seoul, Korea

Li Li, Avaya Labs Research - Basking Ridge, USA

Michal Zemlicka, Charles University - Prague, Czech Republic

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2010) by International Academy, Research, and Industry Association (IARIA)
Please refer to the Copyright Information page.

Printed by Curran Associates, Inc. (2012)

International Academy, Research, and Industry Association (IARIA)
412 Derby Way
Wilmington, DE 19810

Phone: (408) 893-6407
Fax: (408) 527-6351

petre@iaria.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

COGNITIVE 1: BRAIN

Gestalt and Computational Perceptual Approach: Brain Responses Tendencies Given by Visual and Auditory Basic Stimuli	1
<i>Bruno Giesteira, João Travassos, Diana Tavares, Diamantino Freitas</i>	
Functional Segregation of Semantic Memory and Processing in Ventral Inferior Frontal Gyrus	5
<i>Mi Li, Shengfu Lu, Xiaofei Xue, Ning Zhong</i>	
Towards a Cognitive Handoff for the Future Internet: Model-driven Methodology and Taxonomy of Scenarios.....	11
<i>Francisco A. Gonzalez-Horta, Rogerio A. Enriquez-Caldera, Juan M. Ramirez-Cortes, Jorge Martinez-Carballido, Eldamira Buenfil-Alpuche</i>	
Agent and Swarm Views of Cognition in Swarm-Array Computing	20
<i>Blesson Varghese, Gerard McKee</i>	

COGNITIVE 2: APPLICATIONS AND AGENTS

The Significance of Verbal and Spatial Attentional Resources on Mental Workload and Performance	27
<i>Abdulrahman Basahel, Mark Young, Marco Ajovalasit</i>	
Guided Local Search in High Performance Detectors for MIMO Systems	36
<i>Jaime L. Jacob, Yuri M. Mostagi, Taufik Abrão</i>	
Towards a Cognitive Handoff for the Future Internet: A Holistic Vision	44
<i>Francisco A. Gonzalez-Horta, Rogerio A. Enriquez-Caldera, Juan M. Ramirez-Cortes, Jorge Martinez-Carballido, Eldamira Buenfil-Alpuche</i>	
Complexity and Chaos Analysis of a Predator-Prey Ecosystem Simulation	52
<i>Yasaman Majdabadi Farahani, Abbas Golestani, Robin Gras</i>	

COGNITIVE 3: COGNITION I

A Knowledge Development Conception and its Implementation: Knowledge Ontology, Rule System and Application Scenarios.....	60
<i>Eckhard Ammann, Manuela Ruiz-Montiel, Ismael Navas-Delgado, José F. Aldana-Montes</i>	
URBANO: A Tour-Guide Robot Learning to Make Better Speeches	66
<i>Jose Javier Rainer, Ramón Galán</i>	
Graphical Modelling in Mental Health Risk Assessments	72
<i>Olufunmilayo Obembe, Christopher D. Buckingham</i>	
A Tool for Experimenting with a Theorem Prover.....	78
<i>Foteini Grivokostopoulou, Ioannis Hatzilygeroudis</i>	

COGNITIVE 4: COGNITION II

Algorithm to Solve Web Service Complex Request Using Automatic Composition of Semantic Web Service.....	84
<i>Brahim Batouche, Yannick Naudet, Frédéric Guinand</i>	
Recognition and Understanding Situations and Activities with Description Logicsfor Safe Human-Robot Cooperation	90
<i>Jürgen Graf, Stephan Puls, Heinz Wörn</i>	
An Estimation of Distribution Algorithm using the LZW Compression Algorithm.....	97
<i>Orawan Watchanupaporn, Worasait Suwannik</i>	
Learning Approaches to Visual Control of Robotic Manipulators.....	103
<i>Paulo Goncalves, Pedro Torres</i>	
A Perspective on Machine Consciousness.....	109
<i>Dilip Prasad, Janusz Starzyk</i>	
Author Index	