ADAPTIVE 2019

The Eleventh International Conference on Adaptive and Self-Adaptive Systems and Applications

May 5 - 9, 2019

Venice, Italy

ADAPTIVE 2019 Editors

Nadia Abchiche-Mimouni, University of Evry, France
Sebastian Herold, Karlstad University, Sweden
Mirco Schindler, Technische Universität Clausthal, Germany
Christoph Knieke, Technische Universität Clausthal, Germany
Piotr Malak, University of Wrocław, Poland
Tomasz Walkowiak, Wroclaw University of Science and Technology, Poland

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© (2019) by International Academy, Research, and Industry Association (IARIA)
Please refer to the Copyright Information page.

Printed by Curran Associates, Inc. (2019)

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: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

Table of Contents

Coalition-based Multi-agent Approach for Implementing Ethics: An assistive application case-study 1
Nadia Abchiche-Mimouni and Etienne Colle

A Multi-Agent Approach for Self-adaptive MRI Segmentation 7
Mohamed Tahar Bennai, Mazouzi Smaine, Zahia Guessoum, Mohamed Mezghiche, and Stephane Cormier

Implementing Ethics in e-Health Applications through Adaptation: reflection and challenges 13
Nadia Abchiche-Mimouni

Regulated Walking for Multipod Robots 15
Jorg Roth

Evolving Swarm Behavior for Simulated Spiderino Robots 21
Midhat Jdeed, Arthur Pitman, and Wilfried Elmenreich

Adaptive Software Deployment 27
Ichiro Satoh

Personalized Learning Coach: An Adaptive Application for Mindset and Motivation 33
Rachel Van Campenhout

Adaptive Serious Gaming for the Online Assessment of 21st Century Skills in Talent Selection 35
Gabrielle Teyssier-Roberge and Sebastien Tremblay

Architectural Concepts and their Evolution Made Explicit by Examples 38
Mirco Schindler and Andreas Rausch

Data-driven Component Configuration in Production Systems 44
Daning Wang, Christoph Knieke, and Andreas Rausch

Modeling of Automotive HVAC Systems Using Long Short-Term Memory Networks 48
Peter Engel, Sebastian Meise, Andreas Rausch, and Wilhelm Tegethoff

Flood Prediction Through Artificial Neural Networks 56
Pascal Goymann, Dirk Herrling, and Andreas Rausch

A Data Driven Approach for Efficient Re-utilization of Traction Batteries 63
Christian Kreutzmann, Priyanka Sharma, and Sebastian Lawrenz

Automated Generation of Requirements-Based Test Cases for an Automotive Function using the SCADE 69

Toolchain
Adina Aniculaesei, Andreas Vorwald, and Andreas Rausch

A Controller Architecture for Anomaly Detection, Root Cause Analysis and Self-Adaptation for Cluster Architectures 75
Areeg Samir and Claus Pahl

Real-Time Activity Recognition Utilizing Dynamically On-Body Placed Smartphones 84
Marc Kurz, Bernhard Hiesl, and Erik Sonnleitner

Consistent Persistence of Context-Dependent Runtime Models 88
Thomas Kuhn, Christopher Werner, and Tobias Jakel

Adapting a Web Application for Natural Language Processing to Odd Text Representation Formats 97
Bart Jongejan

Just-In-Time Delivery for NLP Services in a Web-Service-Based IT Infrastructure 103
Soheila Sahami and Thomas Eckart