



# **PATTERNS 2016**

The Eighth International Conferences on Pervasive Patterns and Applications

March 20 - 24, 2016

Rome, Italy

## **PATTERNS 2016 Editors**

Herwig Manaert, University of Antwerp, Belgium

Alexander G. Mirnig, University of Salzburg, Austria

**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© (4238) by International Academy, Research, and Industry Association (IARIA)  
Please refer to the Copyright Information page.

Printed by Curran Associates, Inc. (4238)

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

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

[petre@iaria.org](mailto: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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

## Table of Contents

Learning Multi-Class Discriminative Patterns using Episode-Trees <i>Eng-Jon Ong, Nicolas Pugeault, Andrew Gilbert, and Richard Bowden</i>	1
Car User Experience Patterns: A Pattern Collection in Progress <i>Tim Kaiser, Alexander G. Mirnig, Nicole Perterer, Alexander Meschtscherjakov, and Manfred Tscheligi</i>	9
Knowledge Extraction from German Automotive Software Requirements using NLP-Techniques and a Grammar-based Pattern Detection <i>Mathias Schraps and Alexander Bosler</i>	17
Indoor Localization by Map Matching Using One Image of Information Board <i>Kento Tonosaki, Toshihiro Sugaya, Tomo Miyazaki, and Shinichiro Omachi</i>	22
Towards Antipatterns-Based Model Checking <i>Hassan Loulou, Sebastien Saudrais, Hassan Soubra, and Cherif Larouci</i>	27
Search++: More Control than a Simple Search Interface without the Complexity and Confusion of Advanced Search <i>Alessandro Agnello and Haim Levkowitz</i>	33
Assessing the Suitability of Architectural Patterns for Use in Agile Software Development <i>Samira Seifi Jegarkandy and Raman Ramsin</i>	39
Fast Fingerprint Recognition Using Circular String Pattern Matching Techniques <i>Oluwole Ajala, Mudhi Aljamea, Mai Alzamel, Costas S. Iliopoulos, and Yoann Strigini</i>	47