

# Table of Contents

## Machine Learning for Software Systems

Semantic and Algorithmic Recognition Support to Porting Software Applications to Cloud .....	1
<i>Beniamino Di Martino and Giuseppina Cretella</i>	
Machine Learning for Emergent Middleware .....	16
<i>Amel Bennaceur, Valérie Issarny, Daniel Sykes, Falk Howar, Malte Isberner, Bernhard Steffen, Richard Johansson, and Alessandro Moschitti</i>	
Security Oracle Based on Tree Kernel Methods .....	30
<i>Andrea Avancini and Mariano Ceccato</i>	

## NLP for Software Systems

Robust Requirements Analysis in Complex Systems through Machine Learning .....	44
<i>Francesco Garzoli, Danilo Croce, Manuela Nardini, Francesco Ciambra, and Roberto Basili</i>	
Automatic Generation and Reranking of SQL-Derived Answers to NL Questions .....	59
<i>Alessandra Giordani and Alessandro Moschitti</i>	
Assessment of Software Testing and Quality Assurance in Natural Language Processing Applications and a Linguistically Inspired Approach to Improving It .....	77
<i>K. Bretonnel Cohen, Lawrence E. Hunter, and Martha Palmer</i>	
Supporting Agile Software Development by Natural Language Processing .....	91
<i>Barbara Plank, Thomas Sauer, and Ina Schaefer</i>	

## Roadmap for Future Research

Anomaly Detection in the Cloud: Detecting Security Incidents via Machine Learning .....	103
<i>Matthias Gander, Michael Felderer, Basel Katt, Adrian Tolbaru, Ruth Breu, and Alessandro Moschitti</i>	

Using Machine Learning and Information Retrieval Techniques  
to Improve Software Maintainability ..... 117  
    *Anna Corazza, Sergio Di Martino, Valerio Maggio,  
    Alessandro Moschitti, Andrea Passerini, Giuseppe Scanniello, and  
    Fabrizio Silvestri*

The EternalS Roadmap – Defining a Research Agenda for Eternal  
Systems ..... 135  
    *Robert Mullins*

**Author Index** ..... 149