

Contents

Invited Talks

Formal Methods for Robotics: RoboChart, RoboSim, and More	3
<i>Ana Cavalcanti</i>	
Recent Successes with a Meta-Logical Approach to Universal Logical Reasoning (Extended Abstract)	7
<i>Christoph Benz Müller</i>	

Formal Methods Integration and Experience Reports

Abstract State Machines and System Theoretic Process Analysis for Safety-Critical Systems	15
<i>Farah Al-Shareefi, Alexei Lisitsa, and Clare Dixon</i>	
From Scenarios to Timed Automata	33
<i>Neda Saeedloei and Feliks Kluźniak</i>	
Graph Grammar Extraction from Source Code	52
<i>Lucio Mauro Duarte and Leila Ribeiro</i>	
Applying a Formal Method in Industry: A 25-Year Trajectory	70
<i>Thierry Lecomte, David Deharbe, Etienne Prun, and Erwan Mottin</i>	

Model Checking

Encoding Floating-Point Numbers Using the SMT Theory in ESBMC: An Empirical Evaluation over the SV-COMP Benchmarks	91
<i>Mikhail Y.R. Gadelha, Lucas C. Cordeiro, and Denis A. Nicole</i>	
Local Analysis of Determinism for CSP.	107
<i>Rodrigo Otoni, Ana Cavalcanti, and Augusto Sampaio</i>	
OptCE: A Counterexample-Guided Inductive Optimization Solver.	125
<i>Higo F. Albuquerque, Rodrigo F. Araújo, Iury V. Bessa, Lucas C. Cordeiro, and Eddie B. de Lima Filho</i>	
Formal Analysis of the Information Leakage of the DC-Nets and Crowds Anonymity Protocols	142
<i>Arthur Américo, Artur Vaz, Mário S. Alvim, Sérgio V.A. Campos, and Annabelle McIver</i>	

Refinement and Verification

A Refinement Relation for Families of Timed Automata	161
<i>Guillermína Cledou, José Proença, and Luís S. Barbosa</i>	
Rapidly Adjustable Non-intrusive Online Monitoring for Multi-core Systems	179
<i>Normann Decker, Philip Gottschling, Christian Hochberger, Martin Leucker, Torben Scheffel, Malte Schmitz, and Alexander Weiss</i>	
Sound Transpilation from Binary to Machine-Independent Code	197
<i>Roberto Metere, Andreas Lindner, and Roberto Guanciale</i>	
Using Linear Logic to Verify Requirement Scenarios in Composite Web Service	215
<i>Kênia Santos de Oliveira and Stéphane Julia</i>	
Checking Static Properties Using Conservative SAT Approximations for Reachability	233
<i>Pedro Antonino, Thomas Gibson-Robinson, and A.W. Roscoe</i>	

Semantics and Languages

UTCP: Compositional Semantics for Shared-Variable Concurrency	253
<i>Andrew Butterfield</i>	
On Kleene Algebras for Weighted Computation	271
<i>Leandro Gomes, Alexandre Madeira, and Luís S. Barbosa</i>	
Capturing Stochastic and Real-Time Behavior in Reo Connectors	287
<i>Yi Li, Xiyue Zhang, Yuanyi Ji, and Meng Sun</i>	
Author Index	305

Formal Methods: Foundations and Applications
20th Brazilian Symposium, SBMF 2017, Recife, Brazil,
November 29 — December 1, 2017, Proceedings
Cavalheiro, S.; Fiadeiro, J. (Eds.)
2017, X, 305 p. 101 illus., Softcover
ISBN: 978-3-319-70847-8