## Contents

Towards Structuring System Specifications with Time Bands
Using Layers of Rely-Guarantee Conditions ........................................... 1
   Ian J. Hayes

With an Open Mind: How to Write Good Models ..................................... 3
   Cyrille Artho, Koji Hayamizu, Rudolf Ramler, and Yoriyuki Yamagata

Model-Based Testing from Controlled Natural Language Requirements .... 19
   Gustavo Carvalho, Flávia Barros, Florian Lapschies, Uwe Schulze, and Jan Peleska

An UPPAAL Framework for Model Checking Automotive Systems
with FlexRay Protocol ............................................................................... 36
   Xiaoyun Guo, Hsin-Hung Lin, Kenro Yatake, and Toshiaki Aoki

Early Analysis of Soft Error Effects for Aerospace Applications
Using Probabilistic Model Checking ....................................................... 54
   Khaza Anuarul Hoque, Otmane Ait Mohamed, Yvon Savaria, and Claude Thibeault

A Strand Space Approach to Provable Anonymity .................................. 71
   Yongjian Li and Jun Pang

Counterexample Generation for Hybrid Automata .................................... 88
   Johanna Nellen, Erika Ábrahám, Xin Chen, and Pieter Collins

TTM/PAT: Specifying and Verifying Timed Transition Models ................. 107
   Jonathan S. Ostroff, Chen-Wei Wang, Simon Hudon, Yang Liu, and Jun Sun

Formalizing and Verifying Function Blocks Using Tabular Expressions and PVS 125
   Linna Pang, Chen-Wei Wang, Mark Lawford, and Alan Wassyng

Reflections on Verifying Software with Whiley ..................................... 142
   David J. Pearce and Lindsay Groves

Compositional Nonblocking Verification with Always Enabled Events and Selfloop-Only Events ................................................................. 160
   Colin Pilbrow and Robi Malik
Formal Semantics and Analysis of Timed Rebeca in Real-Time Maude ........................................ 178
Zeynab Sabahi-Kaviani, Ramtin Khosravi, Marjan Sirjani,
Peter Csaba Olveczky, and Ehsan Khamespanah

On the Cloud-Enabled Refinement Checking of Railway
Signalling Interlockings .................................................. 195
Andrew Simpson and Jaco Jacobs

Parametric Schedulability Analysis of Fixed Priority Real-Time
Distributed Systems ........................................................ 212
Youcheng Sun, Romain Soulat, Giuseppe Lipari,
Étienne André, and Laurent Fribourg

Wind Turbine System: An Industrial Case Study
in Formal Modeling and Verification ................................ 229
Jagadish Suryadevara, Gaetana Sapienza, Cristina Seceleanu,
Tiberiu Seceleanu, Stein-Erik Ellevseth, and Paul Pettersson

Refinement Tree and Its Patterns: A Graphical Approach
for Event-B Modeling .................................................... 246
Kriangkrai Traichaiyaporn and Toshiaki Aoki

Precise Documentation and Validation of Requirements ................. 262
Chen-Wei Wang, Jonathan S. Ostroff, and Simon Hudon

Certainly Unsupervisable States ........................................ 280
Simon Ware, Robi Malik, Sahar Mohajerani, and Martin Fabian

Author Index ................................................................. 297