

25th International Symposium on Temporal Representation and Reasoning

TIME 2018, October 15–17, 2018, Warsaw, Poland

Edited by

Natasha Alechina

Kjetil Nørvåg

Wojciech Penczek



Editors

Natasha Alechina	Kjetil Nørnvåg	Wojciech Penczek
University of Nottingham	NTNU	ICS PAS and UPH
UK	Norway	Poland
natasha.alechina@nottingham.ac.uk	noervaag@ntnu.no	penczek@ipipan.waw.pl

ACM Classification 2012

Theory of computation → Logic, Information systems → Temporal data, Computing methodologies → Knowledge representation and reasoning

ISBN 978-3-95977-089-7

PRINT ISBN: 978-1-5108-7389-6

Published online and open access by

Schloss Dagstuhl – Leibniz-Zentrum für Informatik GmbH, Dagstuhl Publishing, Saarbrücken/Wadern, Germany. Online available at <http://www.dagstuhl.de/dagpub/978-3-95977-089-7>.

Publication date

October, 2018

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at <http://dnb.d-nb.de>.

License

This work is licensed under a Creative Commons Attribution 3.0 Unported license (CC-BY 3.0): <http://creativecommons.org/licenses/by/3.0/legalcode>.



In brief, this license authorizes each and everybody to share (to copy, distribute and transmit) the work under the following conditions, without impairing or restricting the authors' moral rights:

- Attribution: The work must be attributed to its authors.

The copyright is retained by the corresponding authors.

Digital Object Identifier: 10.4230/LIPIcs.TIME.2018.0

ISBN 978-3-95977-089-7

ISSN 1868-8969

<http://www.dagstuhl.de/lipics>

■ Contents

Preface	
<i>Natasha Alechina, Kjetil Nørvåg, and Wojciech Penczek</i>	0:xii

Invited Papers

On Temporal and Separation Logics	
<i>Stéphane Demri</i>	1:1–1:4
Database Technology for Processing Temporal Data	
<i>Michael H. Böhlen, Anton Dignös, Johann Gamper, and Christian S. Jensen</i>	2:1–2:7
Model Checking Strategic Ability – Why, What, and Especially: How?	
<i>Wojciech Jamroga</i>	3:1–3:10

Regular Papers

Predicting the Evolution of Communities with Online Inductive Logic Programming	
<i>George Athanopoulos, George Paliouras, Dimitrios Vogiatzis, Grigorios Tzortzis, and Nikos Katzouris</i>	4:1–4:20
Extending Fairness Expressibility of ECTL ⁺ : A Tree-Style One-Pass Tableau Approach	
<i>Alexander Bolotov, Montserrat Hermo, and Paqui Lucio</i>	5:1–5:22
Results on Alternating-Time Temporal Logics with Linear Past	
<i>Laura Bozzelli, Aniello Murano, and Loredana Sorrentino</i>	6:1–6:22
Extracting Interval Temporal Logic Rules: A First Approach	
<i>Davide Bresolin, Enrico Cominato, Simone Gnani, Emilio Muñoz-Velasco, and Guido Sciavicco</i>	7:1–7:15
Faster Dynamic Controllability Checking for Simple Temporal Networks with Uncertainty	
<i>Massimo Cairo, Luke Hunsberger, and Romeo Rizzi</i>	8:1–8:16
Extending Conditional Simple Temporal Networks with Partially Shrinkable Uncertainty	
<i>Carlo Combi and Roberto Posenato</i>	9:1–9:16
On Restricted Disjunctive Temporal Problems: Faster Algorithms and Tractability Frontier	
<i>Carlo Comin and Romeo Rizzi</i>	10:1–10:20
Algebraic Operators for Processing Sets of Temporal Intervals in Relational Databases	
<i>Andreas Dohr, Christiane Engels, and Andreas Behrend</i>	11:1–11:16
Deciding the Consistency of Branching Time Interval Networks	
<i>Marco Gavanelli, Alessandro Passantino, and Guido Sciavicco</i>	12:1–12:15

25th International Symposium on Temporal Representation and Reasoning (TIME 2018).

Editors: Natasha Alechina, Kjetil Nørvåg, and Wojciech Penczek

Leibniz International Proceedings in Informatics



LIPICs Schloss Dagstuhl – Leibniz-Zentrum für Informatik, Dagstuhl Publishing, Germany

A Game-Theoretic Approach to Timeline-Based Planning with Uncertainty <i>Nicola Gigante, Angelo Montanari, Marta Cialdea Mayer, Andrea Orlandini, and Mark Reynolds</i>	13:1–13:17
Sound-and-Complete Algorithms for Checking the Dynamic Controllability of Conditional Simple Temporal Networks with Uncertainty <i>Luke Hunsberger and Roberto Posenato</i>	14:1–14:17
Reducing ϵ -DC Checking for Conditional Simple Temporal Networks to DC Checking <i>Luke Hunsberger and Roberto Posenato</i>	15:1–15:15
On the Expressive Power of Hybrid Branching-Time Logics <i>Daniel Kernberger and Martin Lange</i>	16:1–16:18
A Temporal Logic for Modelling Activities of Daily Living <i>Malte S. Kließ, Catholijn M. Jonker, and M. Birna van Riemsdijk</i>	17:1–17:15
GSM+T: A Timed Artifact-Centric Process Model <i>Julius Köpke, Johann Eder, and Jianwen Su</i>	18:1–18:15
Learning Qualitative Constraint Networks <i>Malek Mouhoub, Hamad Al Marri, and Eisa Alanazi</i>	19:1–19:13
A Stream Reasoning System for Maritime Monitoring <i>Georgios M. Santipantakis, Akrivi Vlachou, Christos Doulkeridis, Alexander Artikis, Ioannis Kontopoulos, and George A. Vouros</i>	20:1–20:17
An Empirical Study on Bidirectional Recurrent Neural Networks for Human Motion Recognition <i>Pattreeya Tanisaro and Gunther Heidemann</i>	21:1–21:19
Population Based Methods for Optimising Infinite Behaviours of Timed Automata <i>Lewis Tolonen, Tim French, and Mark Reynolds</i>	22:1–22:22
Computational Complexity of a Core Fragment of Halpern-Shoham Logic <i>Przemysław Andrzej Wałęga</i>	23:1–23:18