Contents

Foundations of Computer Science (Invited Talks)

Cryptography in a Quantum World ................................. 3
   Gilles Brassard

Relating Sublinear Space Computability Among Graph Connectivity
and Related Problems ............................................. 17
   Tatsuya Imai and Osamu Watanabe

Learning Automatic Families of Languages ...................... 29
   Sanjay Jain and Frank Stephan

Software Engineering: Methods, Tools, Applications (Invited Talks)

From ESSENCE to Theory Oriented Software Engineering ............ 43
   Sebastian Holtappels, Michael Striewe, and Michael Goedicke

Incremental Queries and Transformations: From Concepts to Industrial
Applications .......................................................... 51
   Dániel Varró

Data, Information, and Knowledge Engineering (Invited Talks)

Big Sequence Management: A glimpse of the Past, the Present,
and the Future ...................................................... 63
   Themis Palpanas

Pay-as-you-go Data Integration: Experiences and Recurring Themes ..... 81
   Norman W. Paton, Khalid Belhajjame, Suzanne M. Embury,
   Alvaro A.A. Fernandes, and Ruhaila Maskat

Foundations of Computer Science (Regular Papers)

Robust Recoverable Path Using Backup Nodes ........................ 95
   Marjan van den Akker, Hans L. Bodlaender, Thomas C. van Dijk,
   Han Hoogeveen, and Erik van Ommeren

On Contact Graphs with Cubes and Proportional Boxes ................. 107
   M. Jawaherul Alam, Michael Kaufmann, and Stephen G. Kobourov

Orthogonal Layout with Optimal Face Complexity .................... 121
   M. Jawaherul Alam, Stephen G. Kobourov, and Debajyoti Mondal
L-Drawings of Directed Graphs .................................................. 134
Patrizio Angelini, Giordano Da Lozzo, Marco Di Bartolomeo,
Valentino Di Donato, Maurizio Patrignani, Vincenzo Roselli,
and Ioannis G. Tollis

A Combinatorial Model of Two-Sided Search .................................. 148
Harout Aydinian, Ferdinando Cicalese, Christian Deppe,
and Vladimir Lebedev

On the Power of Laconic Advice in Communication Complexity .......... 161
Kfir Barhum and Juraj Hromkovič

Using Attribute Grammars to Model Nested Workflows with Extra
Constraints ....................................................................................... 171
Roman Bartáčk

A Natural Counting of Lambda Terms .............................................. 183
Maciej Bendkowski, Katarzyna Grygiel, Pierre Lescanne,
and Marek Zaionc

Online Minimum Spanning Tree with Advice (Extended Abstract) .......... 195
Maria Paola Bianchi, Hans-Joachim Böckenhauer, Tatjana Brülsauer,
Dennis Komm, and Beatrice Palano

Subsequence Automata with Default Transitions ............................... 208
Philip Bille, Inge Li Gørtz, and Frederik Rye Skjoldjensen

Run-Time Checking Multi-threaded Java Programs ........................... 217
Frank S. de Boer and Stijn de Gouw

Online Graph Coloring with Advice and Randomized Adversary
(Extended Abstract) ....................................................................... 229
Elisabet Burjons, Juraj Hromkovič, Xavier Muñoz, and Walter Unger

Pseudoknot-Generating Operation .................................................. 241
Da-Jung Cho, Yo-Sub Han, Timothy Ng, and Kai Salomaa

Capabilities of Ultrametric Automata with One, Two, and Three States ... 253
Maksims Dimitrijevs

The Complexity of Paging Against a Probabilistic Adversary ............... 265
Stefan Dobrev, Juraj Hromkovič, Dennis Komm, Richard Královič,
Rastislav Královič, and Tobias Mômke

On Parity Game Preorders and the Logic of Matching Plays .................. 277
M.W. Gazda and T.A.C. Willemse
A PTAS for Scheduling Unrelated Machines of Few Different Types .... 290
  Jan Clemens Gehrke, Klaus Jansen, Stefan E.J. Kraft, and Jakob Schikowski

Compacting a Dynamic Edit Distance Table by RLE Compression .... 302
  Heikki Hyysö and Shunsuke Inenaga

Walking Automata in Free Inverse Monoids ......................... 314
  David Janin

Precedence Scheduling with Unit Execution Time is Equivalent
to Parametrized Biclique ........................................... 329
  Klaus Jansen, Felix Land, and Maren Kaluza

Grover’s Search with Faults on Some Marked Elements ................ 344
  Dmitry Kravchenko, Nikolajs Nahimovs, and Alexander Rivosh

Reachability Problems for PAMs .................................. 356
  Oleksiy Kurganskyy and Igor Potapov

On the Effects of Nondeterminism on Ordered Restarting Automata ...... 369
  Kent Kwee and Friedrich Otto

Quantum Walks on Two-Dimensional Grids with Multiple Marked
Locations ...................................................................... 381
  Nikolajs Nahimovs and Alexander Rivosh

How to Smooth Entropy? .............................................. 392
  Maciej Skorski

Bounded TSO-to-SC Linearizability Is Decidable ................. 404
  Chao Wang, Yi Lv, and Peng Wu

Probabilistic Autoreductions ....................................... 418
  Liyu Zhang, Chen Yuan, and Haibin Kan

Software Engineering: Methods, Tools, Applications (Regular Papers)

ABS: A High-Level Modeling Language for Cloud-Aware Programming .... 433
  Nikolaos Bezirgiannis and Frank de Boer

Aspect, Rich, and Anemic Domain Models in Enterprise Information
Systems ................................................................. 445
  Karel Cemus, Tomas Cerny, Lubos Matl, and Michael J. Donahoo

Finding Optimal Compatible Set of Software Components Using Integer
Linear Programming .................................................. 457
  Jakub Danek and Premek Brada
Effective Parallel Multicore-Optimized K-mers Counting Algorithm  . . . . . . . 469
   Tomáš Farkaš, Peter Kubán, and Mária Lucká

Meta-Evolution Style for Software Architecture Evolution  . . . . . . . . . . . . . . 478
   Adel Hassan and Mourad Oussalah

The Simulation Relation for Formal E-Contracts  . . . . . . . . . . . . . . . . . . . . 490
   Luis Llana, María-Emilia Cambronero, and Gregorio Díaz

Data, Information, and Knowledge Engineering (Regular Papers)

Solving the Problem of Selecting Suitable Objective Measures by
Clustering Association Rules Through the Measures Themselves.  . . . . . . . . . 505
   Veronica Oliveira de Carvalho, Renan de Padua,
   and Solange Oliveira Rezende

Survey on Concern Separation in Service Integration  . . . . . . . . . . . . . . . . . 518
   Tomas Cerny and Michael J. Donahoo

Utilizing Vector Models for Automatic Text Lemmatization  . . . . . . . . . . . . 532
   Ladislav Gallay and Marián Šimko

Improving Keyword Extraction from Movie Subtitles
by Utilizing Temporal Properties.  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 544
   Matúš Košút and Marián Šimko

Identification of Navigation Lead Candidates Using Citation
and Co-Citation Analysis  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 556
   Robert Moro, Mate Vangel, and Maria Bielikova

Summarizing Online User Reviews Using Bicliques  . . . . . . . . . . . . . . . . . . 569
   Azam Sheikh Muhammad, Peter Damaschke, and Olof Mogren

Post-processing Association Rules: A Network Based Label
Propagation Approach  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 580
   Renan de Padua, Veronica Oliveira de Carvalho,
   and Solange Oliveira Rezende

Application of Multiple Sound Representations in Multipitch Estimation
Using Shift-Invariant Probabilistic Latent Component Analysis  . . . . . . . . . . . 592
   Krzysztof Rychlicki-Kicior, Bartłomiej Stasiak,
   and Mykhaylo Yatsymirskyy
SOFSEM 2016: Theory and Practice of Computer Science
Freivalds, R.M.; Engels, G.; Catania, B. (Eds.)
2016, XV, 630 p. 150 illus. in color., Softcover
ISBN: 978-3-662-49191-1