

26th Italian Symposium on Advanced Database Systems (SEBD 2018)

Castellaneta Marina, Italy
24-27 June 2018

Editors:

**Sonia Bergamaschi
Andrea Maurino**

**Tommaso Di Noia
Letizia Tanca**

ISBN: 978-1-5108-6963-9

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© for individual papers are retained by the authors.
All rights reserved.

Printed by Curran Associates, Inc. (2018)

Edited by:
Sonia Bergamaschi
Tommaso Di Noia
Andrea Maurino
Letizia Tanca

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

AN APPROACH TO EXTRACTING THEMATIC VIEWS FROM HIGHLY HETEROGENEOUS SOURCES OF A DATA LAKE	1
<i>C. Diamatini, P. Giudice, L. Musarella, D. Potena, E. Storti, D. Ursino</i>	
FILLING THE GAP BETWEEN BUSINESS RULES AND TECHNICAL REQUIREMENTS IN BUSINESS ANALYTICS: THE FACT - CENTERED ETL APPROACH	13
<i>A. Longo, M. Bochicchio, M. Zappatore, L. Vaira</i>	
FIRST STEPS TOWARDS REASONING ON BIG DATA WITH DLV	21
<i>N. Leone, S. Perri, F. Ricca, P. Veltri, J. Zangari</i>	
NEWSVALLUM: SEMANTICS-AWARE TEXT AND IMAGE PROCESSING FOR FAKE NEWS DETECTION SYSTEM	30
<i>G. Armano, S. Battiato, D. Bennato, L. Boratto, S. Carta, T. Noia, E. Sciascio, A. Ortis, D. Recupero</i>	
A BLOCKCHAIN INFRASTRUCTURE FOR THE SEMANTIC WEB OF THINGS	38
<i>M. Ruta, F. Scioscia, S. Ieva, G. Capurso, A. Pinto, E. Seiascio</i>	
ETHICS-AWARE DATA GOVERNANCE	50
<i>L. Tanca, P. Atzeni, D. Azzalini, I. Bartolini, L. Cabibbo, L. Calderoni, P. Ciaccia, V. Crescenzi, J. Martin, S. Fenoglio, D. Firmani, S. Grego, F. Isgro, D. Maio, D. Martinenghi, M. Matera, P. Merialdo, C. Molinaro, M. Patella, R. Prevete, E. Quintarelli, A. Santangelo, A. Tagerelli, G. Tamburrini, R. Torlone</i>	
INTRODUCING ONLINE PROFILE LEARNING IN CROWDSOURCING TASK ROUTING	58
<i>S. Castano, A. Ferrara, S. Montanelli</i>	
ON THE INTERPRETATION OF TRACES OF LOW LEVEL EVENTS IN BUSINESS PROCESS LOGS	66
<i>B. Fazzinga, S. Flesca, F. Furfaro, E. Masciari, L. Pontieri</i>	
HOW TO ROBUSTLY COMBINE JUDGEMENTS FROM CROWD ASSESSORS WITH AWARE	74
<i>M. Ferrante, N. Ferro, M. Maistro</i>	
MULTIDIMENSIONAL MINING OVER BIG HEALTHCARE DATA: A BIG DATA ANALYTICS FRAMEWORK	82
<i>M. Bochicchio, A. Cuzzocrea, L. Vaira, A. Longo, M. Zappatore</i>	
COUNTING VEHICLES WITH CAMERAS	91
<i>L. Ciampi, G. Amato, F. Falchi, C. Gennaro, F. Rabitti</i>	
AN ATTENTION-BASED RECURRENT NEURAL NETWORKS FRAMEWORK FOR HEALTH DATA ANALYSIS	99
<i>Q. Suo, F. Ma, G. Canino, J. Gao, A. Zhang, A. Gnasso, G. Tradigo, P. Veltri</i>	
LET'S MAKE IT DIRTY WITH BART!	106
<i>D. Santoro, P. Arocena, B. Glavic, G. Mecca, R. Müller, P. Papotti</i>	
HOW MODERN DEDUCTIVE DATABASE SYSTEMS CAN ENHANCE DATA INTEGRATION	114
<i>F. Calimeri, S. Perri, G. Terracina, J. Zangari</i>	
TOWARDS PROGRESSIVE SEARCH-DRIVEN ENTITY RESOLUTION	122
<i>A. Pietrangelo, G. Simonini, S. Bergamasehi, I. Koumarelas, F. Naumann</i>	
A NOVEL ACCUSATION MODEL FOR DOCUMENT FINGERPRINTING	130
<i>B. Fazzinga, S. Flesca, F. Furfaro, E. Masciari</i>	
CONTRASTING FAKE REVIEWS IN TRIPADVISOR	142
<i>F. Buccafurri, M. Fazzolari, G. Lax, M. Petrocchi</i>	
BEYOND SKYLINE AND RANKING QUERIES: RESTRICTED SKYLINES	150
<i>P. Ciaccia, D. Martinenghi</i>	
APPROXIMATE QUERY ANSWERING OVER INCONSISTENT KNOWLEDGE BASES	158
<i>S. Greco, C. Molinaro, I. Trubitsyna</i>	
COMPLEXITY OF APPROXIMATE QUERY ANSWERING UNDER INCONSISTENCY IN DATALOG[±]	166
<i>T. Lukasiewicz, E. Malizia, C. Molinaro</i>	
DEPENDENCY-BASED QUERY RESULT APPROXIMATION	174
<i>L. Caruccio, V. Deufemia, G. Polese</i>	
FROM HYPERTREE WIDTH TO SUBMODULAR WIDTH AND DATA-DEPENDENT STRUCTURAL DECOMPOSITIONS	182
<i>F. Scarcello</i>	
FORMALIZATION AND COMPLEXITY OF MONGODB QUERIES	190
<i>E. Botoeva, D. Calvanese, B. Cogrel, G. Xiao</i>	

ONTOLOGY POPULATION FOR OPEN-SOURCE INTELLIGENCE	198
<i>G. Ganino, D. Lembo, M. Mecella, F. Scafoglieri</i>	
AN IOT-ENABLED FRAMEWORK FOR CONTEXT-AWARE ROLE-BASED ACCESS CONTROL	206
<i>G. Delzanno, G. Guerrini</i>	
LESSONS LEARNED AND RESEARCH AGENDA FOR BIG DATA INTEGRATION OF PRODUCT SPECIFICATIONS	217
<i>L. Barbosa, V. Crescenzi, X. Dong, P. Merialdo, F. Piai, D. Qiu, Y. Shen, D. Srivastava</i>	
WIND SPEED FORECASTING VIA STRUCTURED OUTPUT LEARNING	225
<i>A. Appice, A. Lanza, D. Malerba</i>	
ENSEMBLE LEARNING FOR MULTI-TYPE CLASSIFICATION IN HETEROGENEOUS NETWORKS	236
<i>F. Serafino, G. Pio, M. Ceci</i>	
DERIVING LOCAL EXPLANATIONS FOR BLACK BOX MODELS	244
<i>E. Pastor, E. Baralis</i>	
QUERYING RDF DATA CUBES THROUGH NATURAL LANGUAGE	252
<i>M. Atzori, G. Mazzeo, C. Zaniolo</i>	
CONTEXT AWARE SOURCE SELECTION FOR LINKED DATA	260
<i>B. Catania, G. Guerrini, B. Yaman</i>	
USING ONTOLOGY-BASED DATA SUMMARIZATION TO DEVELOP SEMANTICS-AWARE RECOMMENDER SYSTEMS	268
<i>V. Anelli, T. Noia, A. Maurino, M. Palmonari, A. Rula</i>	
PROCESSING SPARQL QUERIES ON DEEP WEB SOURCES	276
<i>A. Cali, T. Noia, T. Lynch, A. Ragone</i>	
A SIMILARITY FUNCTION FOR MULTI-LEVEL AND MULTI-DIMENSIONAL ITEMSETS	284
<i>M. Francia, M. Golfarelli, S. Rizzi</i>	
ENABLING BIG DATA EXPLORATION IN DYNAMIC CONTEXTS	292
<i>A. Bagozi, D. Bianchini, V. Antonellis, A. Marini, D. Ragazzi</i>	
DESIGN AND EVALUATION OF A GENOMICS VARIANT ANALYSIS PIPELINE USING GATK SPARK TOOLS	300
<i>N. Tucci, J. Cala, J. Steyn, P. Missier</i>	
CLIQUES ARE TOO STRICT FOR REPRESENTING COMMUNITIES: FINDING LARGE K- PLEXES IN REAL NETWORKS	312
<i>A. Conte, D. Firmani, C. Mordente, M. Patrignani, R. Torlone</i>	
TEMPORAL RECURRENT ACTIVATION NETWORKS	320
<i>G. Maneo, G. Pirro, E. Ritacco</i>	
GRAPH DATABASES BENCHMARKING ON THE ITALIAN BUSINESS REGISTER	328
<i>N. Ferro, L. Sinico</i>	
GRAPHDBLP RELEASED: QUERYING THE COMPUTER SCIENTISTS NETWORK AS A GRAPH	340
<i>M. Cesarini, F. Mercurio, M. Mezzanzanica, V. Moscato, A. Picariello</i>	
INVERSE TREE-OLAP: DEFINITION, COMPLEXITY AND FIRST SOLUTION	348
<i>D. Sacca, E. Serra, A. Cuzzocrea</i>	
AN INNOVATIVE FRAMEWORK FOR COMBINING SET SIMILARITY JOIN ALGORITHMS AND CLUSTERING	358
<i>L. Ribeiro, A. Cuzzocrea, K. Bezerra, B. Nascimento, M. Nolich</i>	
DERIVING LOCAL INTERNAL LOGIC FOR BLACK BOX MODELS	366
<i>E. Pastor</i>	
ON THE INCREMENTAL COMPUTATION OF ARGUMENTATION FRAMEWORKS	370
<i>G. Alfano</i>	
EFFICIENT AND EFFECTIVE SOURCE SELECTION IN THE WEB OF DATA: A SMART CACHING APPROACH	374
<i>F. Fino</i>	
A METHODOLOGY FOR GDPR COMPLIANT DATA PROCESSING	378
<i>D. Desiato</i>	
Author Index	