

1. Record Nr.	UNISA996464523503316
Titolo	Advanced information systems engineering : 33rd international conference, CAiSE 2021, Melbourne, VIC, Australia, June 28 - July 2, 2021 : proceedings / / Marcello La Rosa, Shazia Sadiq, Ernest Teniente (editors)
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-79382-6
Descrizione fisica	1 online resource (577 pages)
Collana	Lecture notes in computer science ; ; 12751
Disciplina	025.04
Soggetti	World Wide Web
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	<p>Intro -- Preface -- Organization -- Extended Abstracts of Invited Keynote Talks -- Designing Intelligent Systems: The Role of Affordances and Trust -- Leveraging Artificial Intelligence and Big Data to Address Grand Challenges -- Bad Files, Bad Data, Bad Results: Data Quality and Data Preparation -- Contents -- Privacy and Security -- Towards an Ecosystem of Domain Specific Languages for Threat Modeling -- 1 Introduction -- 2 Related Work -- 3 The Meta Attack Language -- 4 Properties of Ecosystems -- 5 A Vision for the Structure of an Ecosystem -- 6 Single Language Development -- 6.1 Developing a New Language -- 6.2 Language Maintenance -- 6.3 Combining Languages -- 6.4 First Experimentation Insights -- 7 Discussion -- 8 Conclusion -- References -- Privacy-Aware Process Performance Indicators: Framework and Release Mechanisms -- 1 Introduction -- 2 Background -- 2.1 Notions and Notations for Event Logs -- 2.2 Process Performance Indicators -- 2.3 Differential Privacy -- 3 A Framework for Privacy-Aware PPIs -- 4 Release Mechanisms for Privacy-Aware PPIs -- 4.1 Using Function Composition Trees for Privacy Protection -- 4.2 Release Mechanisms for Multi-Instance Measures -- 5 Experimental Evaluation -- 5.1 Controlled Experiments -- 5.2 Case Study: Process for Sepsis Cases -- 6 Related Work -- 7 Conclusion -- References -- P-SGD: A Stochastic Gradient Descent Solution for Privacy-Preserving</p>

During Protection Transitions -- 1 Introduction -- 2 Motivating Scenario -- 3 P-SGD Proposal -- 3.1 Deviation Rate Quantification -- 3.2 P-SGD Algorithm -- 4 Experimental Validation and Evaluation -- 4.1 Performance Evaluation -- 5 Related Work -- 5.1 Context-Aware and Personalized Privacy Models -- 5.2 Privacy Protection Functions -- 6 Conclusion and Future Work -- References -- Natural Language Processing and Text.

Extracting Semantic Process Information from the Natural Language in Event Logs -- 1 Introduction -- 2 Motivation -- 2.1 Semantic Roles in Event Data -- 2.2 The Semantic Role Labeling Task -- 3 Semantic Event Log Parsing -- 3.1 Step 1: Data Type Categorization -- 3.2 Step 2: Instance-Level Labeling of Textual Attributes -- 3.3 Step 3: Attribute-Level Classification -- 3.4 Output -- 4 Evaluation -- 4.1 Evaluation Data -- 4.2 Setup -- 4.3 Results -- 5 Case Study -- 6 Related Work -- 7 Conclusion -- References -- Data-Driven Annotation of Textual Process Descriptions Based on Formal Meaning Representations -- 1 Introduction -- 2 Preliminaries -- 2.1 Natural Language Processing -- 2.2 Semantic Parsing, Formal Meaning Representation and UCCA -- 2.3 Artificial Neural Networks for Graphs -- 2.4 Annotation Schemes and Tasks for Textual Process Descriptions -- 3 Related Work -- 4 Approach -- 5 Evaluation -- 5.1 Dataset Description and Experimental Setup -- 5.2 Overall Results and Further Analysis -- 6 Conclusion and Future Work -- References -- An NLP-Based Architecture for the Autocompletion of Partial Domain Models -- 1 Introduction -- 2 Approach -- 2.1 Step A: Initialization -- 2.2 Step B: Suggestion Generation -- 2.3 Step C: Update Model and Historical Data -- 3 Tool Support -- 4 Validation -- 4.1 Experiment and Setup -- 4.2 Recall (RQ1) -- 4.3 Precision (RQ2) -- 4.4 Source of Accepted Suggestions (RQ3) -- 4.5 Performance (RQ4) -- 5 Related Work -- 6 Conclusions -- References -- Process Discovery -- Learning of Process Representations Using Recurrent Neural Networks -- 1 Introduction -- 2 Related Work -- 3 Representation Learning -- 3.1 Recurrent Neural Networks (RNNs) -- 3.2 Our Neural Network Architecture -- 3.3 Limitations -- 4 Evaluation -- 4.1 Datasets -- 4.2 Experimental Setup -- 4.3 Evaluation Metrics -- 4.4 Results: Synthetic Event Logs.

4.5 Results: Real-Life Event Logs -- 5 Discussion -- 6 Conclusion and Future Work -- References -- Extracting Process Features from Event Logs to Learn Coarse-Grained Simulation Models -- 1 Introduction -- 2 Related Work -- 3 Preliminaries -- 4 Approach -- 4.1 Event Log Preparation -- 4.2 Variable Extraction (SD-Log Generation) -- 5 Evaluation -- 5.1 Designing Simulation Models -- 5.2 Evaluation Results -- 6 Conclusion -- References -- All that Glitters Is Not Gold -- 1 Introduction -- 2 Setting the Stage -- 2.1 Process Discovery and Conformance Checking -- 2.2 Relating Log Quality and Model Quality -- 3 Sampling to Measure Log Quality -- 3.1 Sampling Techniques -- 3.2 Towards Sample Quality Measures for Process Mining -- 4 Designing Process Discovery Algorithms with Guarantees -- 4.1 Stage 1: The Algorithm Is Well Designed -- 4.2 Stage 2: The Algorithm Is Validated -- 4.3 Stage 3: An Established Relationship Between Log and Model Quality -- 4.4 Stage 4: The Algorithm Is Effective -- 5 Related Work -- 6 Conclusion -- References -- Patterns -- Reusable Abstractions and Patterns for Recognising Compositional Conversational Flows -- 1 Introduction -- 2 Related Work -- 3 Overview -- 4 Dialogue Pattern Recogniser -- 4.1 Slot-Value-Flow Pattern -- 4.2 Nested-Intent Pattern -- 4.3 API-Calls Ordering Pattern -- 5 Context Knowledge Service -- 6 Evaluation -- 6.1 Methods -- 6.2 Results -- 7 Conclusions and Future Work -- References -- Design Patterns for Board-Based Collaborative Work Management Tools -- 1

Introduction -- 2 Background and Related Work -- 3 A Metamodel for Board Design -- 4 Patterns for Board Design -- 5 Application of Patterns in the Templates -- 6 Conclusions and Future Work -- References -- ADaMaP: Automatic Alignment of Relational Data Sources Using Mapping Patterns -- 1 Introduction -- 2 Model -- 2.1 OBDA Framework -- 2.2 Mapping Patterns.
2.3 The Alignment of Data Sources with Mapping Patterns Problem -- 3 Extracting Semantics from Data Sources with ADaMaP -- 3.1 ADaMaP: Automatically Extracting Semantics from Data Sources -- 3.2 Usage of Aligning Data Sources with Mapping Patterns -- 4 Empirical Evaluation -- 4.1 Experiments Setting -- 4.2 Results -- 5 Related Work -- 6 Conclusions -- References -- Data and Task Management -- A Metadata Model to Connect Isolated Data Silos and Activities of the CAE Domain -- 1 Introduction -- 2 Challenges for Data Management in the CAE Domain -- 2.1 Product Development Project Workflow -- 2.2 Use Case: Feedback in Virtual Product Development -- 2.3 Challenges for CAE Data and Metadata Management -- 3 Related Work -- 4 Grab'MeMo: A Graph-Based Metadata Model -- 4.1 Conceptual Metadata Model -- 4.2 Graph-Based Logical Model -- 5 Implementation and Validation -- 5.1 Prototypical Implementation and Design Considerations -- 5.2 Use Case: CAE-CAT Feedback -- 6 Conclusion -- References -- Challenges and Perils of Testing Database Manipulation Code -- 1 Introduction -- 2 Motivational Study -- 3 Challenges and Problems When Testing DB Access Code -- 3.1 Context and Data Collection -- 3.2 Taxonomy of Database Testing Issues -- 3.3 Discussion and Implications -- 4 Threats to Validity -- 5 Related Work -- 6 Conclusion -- References -- Semi-contingent Task Durations: Characterization and Controllability -- 1 Introduction -- 2 Characterization of Semi-contingent Durations -- 3 Modeling Processes with Semi-contingent Durations -- 3.1 Process Model -- 3.2 Temporal Semantics -- 4 Controllability of Processes with Semi-contingent Durations -- 4.1 Simple Temporal Network with Semi-contingency and Uncertainty (STNSU) -- 4.2 Mapping Processes into STNSUs -- 4.3 Dynamic Controllability of STNSUs -- 4.4 Inference Rules for STNSUs -- 4.5 Checking Dynamic Controllability.
5 Implementation, Evaluation, and Discussion -- 6 Related Work -- 7 Conclusions -- References -- Constraint Modelling -- Referential Integrity Under Uncertain Data -- 1 Introduction -- 2 Application Scenario -- 3 Related Work -- 3.1 Classical Inclusion Dependencies -- 3.2 Approximate Inclusion Dependencies -- 3.3 Data Quality and Inclusion Dependencies -- 3.4 Other Classes of Possibilistic Constraints and Approaches to Uncertainty -- 4 Possibilistic Databases -- 5 Possibilistic Inclusion Dependencies -- 6 Reasoning About Possibilistic Inclusion Dependencies -- 6.1 Correspondence to INDs -- 6.2 Algorithmic Characterization -- 6.3 PSPACE-Completeness and Fixed-Parameter Tractability -- 7 Conclusion and Future Work -- References -- Uniqueness Constraints on Property Graphs -- 1 Introduction -- 2 Application Scenario -- 3 Literature Review -- 4 Multi-label Embedded Uniqueness Constraints -- 4.1 Property Graph Model -- 4.2 Introducing Embedded Uniqueness Constraints -- 4.3 Real-World eUCs for Managing Node Integrity and Node De-Duplication -- 5 Use Cases -- 5.1 Updates -- 5.2 Indexing for Efficient Updates and Queries -- 6 Reasoning -- 6.1 Axiomatic Characterization -- 6.2 Algorithmic Characterization -- 7 Applications in Information Systems Engineering -- 7.1 Business Rule Elicitation and Detecting Data Quality Problems -- 7.2 Towards Data Quality-Driven Schema Design -- 8 Recommendations for Graph Database Systems -- 9 Conclusion and Future Work -- References -- Refining Case Models Using Cardinality

Constraints -- 1 Introduction -- 2 FCM Syntax and Notation -- 3
Execution Semantics -- 3.1 Walk-Through -- 3.2 A Translational
Semantics -- 4 Implementation and Discussion -- 5 Related Work -- 6
Conclusion -- References -- Process Understanding.
Digging for Gold in RPA Projects - A Quantifiable Method to Identify
and Prioritize Suitable RPA Process Candidates.
