1. Record Nr. UNISA996464418503316

Titolo	Process mining workshops : ICPM 2020 International Workshops, Padua, Italy, October 5-8, 2020, Revised selected papers / / Sander Leemans, Henrik Leopold (editors)
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-72693-2
Descrizione fisica	1 online resource (xiv, 400 pages) : illustrations
Collana	Lecture notes in business information processing ; ; 406
Disciplina	006.3
Soggetti	Data mining Electronic data processing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Intro -- Preface -- Organization -- Contents -- 1st International Workshop on Event Data and Behavioral Analytics (EDBA) -- First International Workshop on Event Data and Behavioral Analytics (EdbA'20) -- Organization -- Workshop Chairs -- Program Committee -- Visually Representing History Dependencies in Event Logs -- 1 Introduction -- 2 Related Work -- 3 Visualization Techniques -- 3.1 Visualization Directly-Follows Graph -- 3.2 Visualization Additional Rectangle -- 3.3 Visualization Additional Arc -- 4 Design Setting -- 5 Evaluation Results -- 6 Discussion -- 7 Implementation as ProM Plugin -- 8 Summary and Outlook -- A Rigorous Definitions -- References -- Analysis of Business Process Batching Using Causal Event Models -- 1 Introduction -- 2 Motivational Scenario -- 3 Related Work -- 4 Batch Analysis Based on Causal Event Models -- 4.1 Determine Causal Event Models for Event Log -- 4.2 Batching Analysis -- 4.3 Implementation -- 5 Results and Evaluation -- 5.1 Setup and Dataset -- 5.2 Visualization of the Results -- 5.3 Data Analyses -- 5.4 Discussion -- 6 Conclusion -- References -- Process "Prospecting" to Improve Renewable Energy Interconnection Queues: A Case Study -- 1 Background -- 2 Methodology -- 2.1 Gather DEC Regulatory Filing Data and Convert It into MS Excel Format -- 2.2 Assess Process Performance and Generate an Event Log CSV File -- 2.3 Conduct Petri

Net Behavior and Event Log Conformance Analysis -- 2.4 Conduct Event Log Visualization and Directly Follows Graph Analysis -- 2.5 Analyze Key Date Behavior of Project Developers (Installers) -- 3 Results -- 3.1 Assess Process Performance -- 3.2 Petri Net Behavioral Analysis -- 3.3 Conformance Analysis -- 3.4 Event Log Visualizations -- 3.5 Directly Follows Graph -- 3.6 Key Date Behavioral Analysis: Solar Project Developers -- 4 Discussion -- 4.1 Petri Net Behavioral Analysis. 4.2 Conformance and Event Log Analysis -- 4.3 Key Date Behavioral Analysis -- 4.4 Approach Viability -- 5 Conclusions -- References -- Automated Discovery of Process Models with True Concurrency and Inclusive Choices -- 1 Introduction -- 2 Background and Related Work -- 3 Approach -- 3.1 Refined Directly-Follows Graph Discovery -- 3.2 Refined Concurrency Discovery -- 3.3 Heuristic Improvement -- 4 Evaluation -- 4.1 Dataset and Setup -- 4.2 Results -- 5 Conclusion -- References -- A Novel Approach to Discover Switch Behaviours in Process Mining -- 1 Introduction -- 2 Background -- 3 Preliminaries -- 4 The Switch Process Tree -- 5 Discovering Switch Process Trees -- 5.1 The Switch Exclusive Choice Cut (Line 3) -- 5.2 Verifying the Exclusive Choice Switch Cut (Line 10-18) -- 5.3 Removing Incorrect Switch Behaviours -- 6 Evaluation -- 6.1 Evaluation Using Artificial Data -- 6.2 Evaluation Using Publically-Available Data -- 7 Discussion and Conclusion -- References -- Process Model Discovery from Sensor Event Data -- 1 Introduction -- 2 Related Work -- 3 Translating Sensor Data to High-Level Traces -- 3.1 Event Correlation -- 3.2 Activity Discovery -- 3.3 Event Abstraction -- 3.4 Process Discovery -- 4 Evaluation -- 4.1 Set-up -- 4.2 Results and Discussion -- 4.3 Limitations -- 5 Conclusion -- References -- Unsupervised Event Abstraction in a Process Mining Context: A Benchmark Study -- 1 Introduction -- 2 Related Work -- 3 Methodology and Experimental Setup -- 3.1 Evaluation Method -- 3.2 Data -- 3.3 Experimental Design -- 4 Empirical Results -- 4.1 The Effect of Abstraction on Model Complexity -- 4.2 The Effect of Abstraction on Model Fitness and Precision -- 4.3 Discussion -- 4.4 Limitations -- 5 Conclusion -- References -- 1st International Workshop on Leveraging Machine Learning in Process Mining (ML4PM).
1st International Workshop in Leveraging Machine Learning for Process Mining (ML4PM 2020) -- Organization -- Workshop Chairs -- Program Committee -- Additional Reviewers -- Predicting Remaining Cycle Time from Ongoing Cases: A Survival Analysis-Based Approach -- 1 Introduction -- 2 Related Work -- 2.1 Baseline Approach -- 3 Background -- 3.1 Events, Trace, Logs -- 3.2 Survival Analysis and Censored-Learning -- 4 Learning from Incomplete Traces -- 4.1 Neural Network Setup -- 4.2 Optimization Function -- 5 Evaluation -- 6 Conclusion -- References -- Time Matters: Time-Aware LSTMs for Predictive Business Process Monitoring -- 1 Introduction -- 2 Related Work -- 3 Background -- 3.1 Preliminaries -- 3.2 Long Short-Term Memory Cells -- 4 Methodology -- 4.1 Time-Aware Long Short-Term Memory Cells -- 4.2 Network Architecture -- 5 Experiments -- 5.1 Datasets -- 5.2 Preprocessing -- 5.3 Training Setup -- 5.4 Evaluation -- 5.5 Implementation -- 6 Results -- 6.1 Next Activity Prediction -- 6.2 Next Timestamp Prediction -- 7 Discussion -- 8 Conclusion and Future Work -- References -- A Preliminary Study on the Application of Reinforcement Learning for Predictive Process Monitoring -- 1 Introduction -- 2 Related Work -- 3 Background -- 4 Methodology -- 4.1 Pre-processing -- 4.2 Learning Architecture -- 5 Evaluation -- 5.1 Experimental Setup -- 5.2 Metrics -- 5.3 Results -- 6 Conclusions and Future Works -- References -- An Alignment Cost-Based Classification of Log Traces Using Machine-Learning -- 1 Introduction -- 2 Related

Work -- 3 Preliminaries -- 3.1 Log Traces, Process Model, Fitness and Alignments -- 3.2 Supervised Learning from Sequences -- 4 Classifying Traces and Bounding the Fitness of a Model -- 5 Experiments -- 5.1 Alignment Datasets -- 5.2 Learning Methods -- 5.3 Results and Interpretation -- 6 Conclusion and Opening -- References.
Improving the Extraction of Process Annotations from Text with Inter-sentence Analysis -- 1 Introduction -- 2 Related Work -- 3 Preliminaries -- 3.1 Natural Language Processing -- 3.2 Annotated Textual Descriptions of Processes (ATDP) -- 3.3 TRegex -- 4 Generalized Approach -- 4.1 Basic Approach: Intra-sentence Analysis -- 4.2 Inter-sentence Analysis -- 5 Tool Support and Experiments -- 6 Conclusions and Future Work -- References -- Case2vec: Advances in Representation Learning for Business Processes -- 1 Introduction -- 2 Related Work -- 3 Case2vec -- 4 Experimental Evaluation -- 4.1 Datasets -- 4.2 Real-Life Event Logs: Trace Clustering -- 4.3 Amended Real-Life Event Logs: Event Abstraction -- 4.4 Synthetic Paper Process: Vector Arithmetic Interpretability -- 5 Discussion -- 5.1 Trace Clustering -- 5.2 Event Abstraction -- 5.3 Interpretability Task -- 6 Conclusion -- References -- Supervised Conformance Checking Using Recurrent Neural Network Classifiers -- 1 Introduction -- 2 RNN-Based Conformance Checking -- 2.1 Overview -- 2.2 Model Log Generation -- 2.3 Antilog Generation -- 2.4 Recurrent Neural Network Classifier -- 3 Experimental Evaluation -- 4 Related Work -- 5 Conclusion and Future Work -- References -- 1st International Workshop on Streaming Analytics for Process Mining (SA4PM'20) -- 1st International Workshop on Streaming Analytics for Process Mining (SA4PM) -- Organization -- Workshop Chairs -- Program Committee -- Online Anomaly Detection Using Statistical Leverage for Streaming Business Process Events -- 1 Introduction -- 2 Related Work -- 3 Research Framework -- 3.1 Anomaly Score -- 3.2 Online Anomaly Detection -- 4 Evaluation -- 5 Conclusions -- References -- Concept Drift Detection on Streaming Data with Dynamic Outlier Aggregation -- 1 Introduction and Motivation -- 2 Related Work -- 3 Preliminaries.
4 Dynamic Outlier Aggregation -- 5 Evaluation on a Synthetic Log -- 5.1 Execution Times -- 5.2 Impact of Inter-drift Distance and Sliding Window Size -- 6 Evaluation on the Event Log of BPIC 2015 -- 7 Conclusion -- References -- OTOSO: Online Trace Ordering for Structural Overviews -- 1 Introduction -- 2 Related Work -- 3 Preliminaries -- 4 OTOSO -- 4.1 Monitoring Temporal Deviations -- 4.2 Structure Analysis -- 5 Evaluation -- 5.1 Datasets -- 5.2 Hash Table Size -- 5.3 Static Clustering vs. Dynamic Clustering -- 5.4 OTOSO on Event Stream with Concept Drifts -- 6 Conclusion -- References -- Performance Skyline: Inferring Process Performance Models from Interval Events -- 1 Introduction -- 2 Related Work -- 3 Preliminaries -- 3.1 Interval Events -- 3.2 Skyline Operator -- 3.3 Geometric Interval Representation -- 4 Performance Models for Interval Events -- 4.1 Geometrical Process Representation -- 4.2 Performance Skyline -- 5 Statistical Analysis Techniques -- 5.1 Average Trace Skyline -- 5.2 Average Skyline Trace -- 5.3 Expected Skyline Activity Set -- 6 Discussion -- 7 Conclusion and Future Work -- References -- 5th International Workshop on Process Querying, Manipulation, and Intelligence (PQMI 2020) -- 5th International Workshop on Process Querying, Manipulation, and Intelligence (PQMI 2020) -- Organization -- Workshop Organizers -- Program Committee -- Alignment Approximation for Process Trees -- 1 Introduction -- 2 Related Work -- 3 Preliminaries -- 3.1 Event Logs -- 3.2 Process Trees -- 3.3 Alignments -- 4 Formal Framework -- 5 Alignment Approximation Approach -- 5.1 Overview -- 5.2 Calculation of Process Tree

Characteristics -- 5.3 Interpretation of Process Tree Characteristics -- 5.4 Approximating on Choice Operator -- 5.5 Approximating on Sequence Operator -- 5.6 Approximating on Parallel Operator -- 5.7 Approximating on Loop Operator.
6 Evaluation.