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Nota di contenuto	Foundations of Conceptual Modeling -- A Refinement Calculus for Requirements Engineering based on Argumentation Theory -- Neo4j Keys -- Past Trends and Future Prospects in Conceptual Modeling - A Bibliometric Analysis -- Process Mining and Conceptual Modeling -- Bot Log Mining: Using Logs from Robotic Process Automation for Process Mining -- Discovering Data Models from Event Logs -- Semi-Automated Time-Granularity Detection for Data-Driven Simulation Using Process Mining and System Dynamics -- Identifying Cohorts: Recommending Drill-Downs Based on Differences in Behaviour for Process Mining -- Conceptual Modeling of Business Rules and Processes -- Sensemaking in Dual Artefact Tasks - The Case of

Business Process Models and Business Rules -- Do Declarative Process Models Help to Reduce Cognitive Biases Related to Business Rules? -- Modeling Behavioral Deontic Constraints using UML and OCL -- Defining Instance Spanning Constraint Patterns for Business Processes Based on Proclets -- Contribution of Conceptual Modeling to Enhancing Historians' Intuition - Application to Prosopography -- A Code-efficient Process Scripting Language -- Assessing the Compliance of Business Process Models with Regulatory Documents -- Modeling Chatbots, Narratives and Natural Language -- Model-driven Chatbot Development -- Supporting Collaborative Modeling via Natural Language Processing -- Automatic Generation of Chatbots for Conversational Web Browsing -- Modeling Narrative Structures in Logical Overlays on Top of Knowledge Repositories -- Towards a Conceptual Model for Data Narratives -- Subcontracting and Assignment and Substitution for Legal Contracts in Symboleo -- Ontology and Conceptual Modeling -- Towards a Reference Ontology for Digital Platforms -- An Ontological Analysis of the Notion of Treatment -- Transformation of Ontology-Based Conceptual Models into Relational Schemas -- Towards an Ontology Network on Human-Computer Interaction -- Ontology-based Modeling and Analysis of Trustworthiness Requirements: Preliminary Results -- Upper-level Types of Occurrent Based on the Principle of Ontological Conservation -- A Core Ontology for Economic Exchanges -- Applications of Conceptual Modeling -- Towards a Model-Driven Architecture for Interactive Digital Twin Cockpits -- Empowering Virus Sequence Research through Conceptual Modeling -- Modeling Interactive Smart Spaces -- The Conceptual Schema of Ethereum -- Towards Privacy Policy Conceptual Modeling -- Schema Design, Evolution, NoSQL -- An Empirical Study on the Design and Evolution of NoSQL Database Schemas -- A Study on the Effect of a Table's Involvement in Foreign Keys to Its Schema Evolution -- A Workload-driven Document Database Schema Recommender (DBSR) -- Empirical Studies of Conceptual Modeling -- Quantifying the Impact of EER Modeling on Relational Database Success: An Experimental Investigation -- Modeling Difficulties in Data Modeling: Similarities and Differences between Experienced and Non-experienced Modelers -- Towards a Framework for Empirical Measurement of Conceptualization Qualities -- Networks, Graphs and Conceptual Modeling -- Deep Temporal Multi-Graph Convolutional Network for Crime Prediction -- A Conceptual Framework for Dynamic Planning of Alternative Routes in Road Networks -- EER-MLN: EER Approach For Modeling and Mapping and Analyzing Complex Data As Multilayer Networks (MLNs) -- Conceptual Modeling of Complex and Data-Rich Systems -- Modeling and Analysis of Boundary Objects and Methodological Islands in Large-Scale Systems Development -- Structural and Computational Properties of Possibilistic Armstrong Databases -- Trust-aware Curation of Linked Open Data Logs.

## Sommario/riassunto

This book constitutes the refereed proceedings of the 39th International Conference on Conceptual Modeling, ER 2020, which was supposed to be held in Vienna, Austria, in November 2020, but the conference was held virtually due to the COVID-19 pandemic. The 28 full and 16 short papers were carefully reviewed and selected from 143 submissions. This events covers a wide range of topics, and the papers are organized in the following sessions: foundations of conceptual modeling; process mining and conceptual modeling; conceptual modeling of business rules and processes; modeling chatbots, narratives and natural language; ontology and conceptual modeling; applications of conceptual modeling; schema design, evolution, NoSQL;

empirical studies of conceptual modeling; networks, graphs and conceptual modeling; and conceptual modeling of complex and data-rich systems.

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