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Collana	Lecture Notes in Artificial Intelligence, , 2945-9141 ; ; 4933
Disciplina	006.1
Soggetti	Artificial intelligence Computer science - Mathematics Discrete mathematics Machine theory Software engineering Data mining Algebra Artificial Intelligence Discrete Mathematics in Computer Science Formal Languages and Automata Theory Software Engineering Data Mining and Knowledge Discovery Order, Lattices, Ordered Algebraic Structures
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Communicative Rationality, Logic, and Mathematics -- Actionability and Formal Concepts: A Data Mining Perspective -- Acquiring Generalized Domain-Range Restrictions -- A Finite Basis for the Set of -Implications Holding in a Finite Model -- Lexico-Logical Acquisition of OWL DL Axioms -- From Concepts to Concept Lattice: A Border Algorithm for Making Covers Explicit -- A Formal Context for Symmetric Dependencies -- The Number of Plane Diagrams of a Lattice -- Spectral Lattices of -Formal Contexts -- About Keys of Formal

Context and Conformal Hypergraph -- An Algebraization of Linear Continuum Structures -- On the Complexity of Computing Generators of Closed Sets -- Generating Positive and Negative Exact Rules Using Formal Concept Analysis: Problems and Solutions -- On the Merge of Factor Canonical Bases -- Lattices of Rough Set Abstractions as P-Products -- Scale Coarsening as Feature Selection -- Formal Concept Analysis for the Identification of Combinatorial Biomarkers in Breast Cancer -- Handling Spatial Relations in Logical Concept Analysis to Explore Geographical Data -- Analysis of Social Communities with Iceberg and Stability-Based Concept Lattices -- Formal Concept Analysis Enhances Fault Localization in Software -- Refactorings of Design Defects Using Relational Concept Analysis -- Contingency Structures and Concept Analysis -- Comparison of Dual Orderings in Time II.

Sommario/riassunto

Formal Concept Analysis (FCA) is a mathematical theory of concepts and c-
ceptualhierarchyleadingtomethodsforconceptuallyanalyzingdataandkno - edge. The theoryitselfstronglyreliesonorderandlatticetheory, whichhasbeen studied by mathematicians over decades. FCA proved itself highly relevant in several applications from the beginning, and, over the last years, the range of applicationshaskeptgrowing. The mainreasonfor this comesfromthe fact that our modern society has turned into an “information” society. After years and years of using computers, companies realized they had stored gigantic amounts of data. Then, they realized that this data, just rough information for them, might become a real treasure if turned into knowledge. FCA is particularly well suited for this purpose. From relational data, FCA can extract implications, - pendencies, concepts and hierarchies of concepts, and thus capture part of the knowledge hidden in the data. The ICFCA conference series gathers researchers from all over the world, being the main forum to present new results in FCA and related ?elds. These results range from theoretical novelties to advances in FCA-related algorithmic issues, as well as application domains of FCA. ICFCA 2008 was in the same vein as its predecessors: high-quality papers and presentations, the place of real debate and exchange of ideas. ICFCA 2008 contributed to strengthening the links between theory and applications. The high quality of the presentations was the result of the remarkable work of the authors and the reviewers. We wish to thank the reviewers for all their valuable comments, which helped the authors to improve their presentations.