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Nota di contenuto	Intro -- Preface -- Organization -- Plenary Lectures -- Graphical Designs -- Advances in Approximation Algorithms for Tree Augmentation -- Algorithmic Data Science -- Recent Algorithmic Advances for Maximum-Entropy Sampling -- Contents -- Polyhedra and Algorithms -- New Classes of Facets for Complementarity Knapsack Problems -- 1 Introduction -- 2 Notations, Assumptions, and Previous Work -- 3 Separation Complexity of Lifted Cover Inequalities for CKP -- 4 New Families of Facet-Defining Inequalities -- 5 Future Direction -- References -- Branch-and-Cut for a 2-Commodity Flow Relocation Model with Time Constraints -- 1 Introduction -- 2 A TEN Model for the Item Relocation Problem -- 3 The Projected IRP Model -- 3.1 Extended Subtour Constraints and Projected Cost -- 3.2 Separating the Extended Subtour Constraints -- 4 Algorithmic Handling and Numerical Experiments -- 4.1 Separation Algorithm -- 4.2 Numerical Experiments -- 5 Conclusion: A Brief Discussion of the Lift Issue -- References -- The Constrained-Routing and Spectrum Assignment Problem: Valid Inequalities and Branch-and-Cut Algorithm -- 1 Introduction -- 2 The Constrained-Routing and Spectrum Assignment Problem -- 3 Integer Linear Programming Formulation -- 4 Valid Inequalities and Facets -- 4.1 Edge-Capacity-Cover Inequalities -- 4.2 Edge-Interval-Capacity-Cover Inequalities -- 4.3 Edge-Interval-Clique Inequalities -- 4.4 Edge-Slot-Assignment-Clique Inequalities -- 4.5

Slot-Assignment-Clique Inequalities -- 5 Branch-and-Cut Algorithm -- 6 Computational Study -- 7 Conclusion -- References -- Polyhedra and Combinatorics -- Top-k List Aggregation: Mathematical Formulations and Polyhedral Comparisons -- 1 Introduction -- 2 Preliminaries -- 3 Integer Programming Formulations -- 4 Polyhedral Comparison -- 5 Concluding Remarks -- References -- Bounded Variation in Binary Sequences. 1 Introduction -- 2 Penalized Variation -- 3 Bounded Variation -- 4 Conclusion and Future Work -- References -- On Minimally Non-firm Binary Matrices -- 1 Introduction -- 2 Preliminaries -- 3 Simplicial 1s and Stretching -- 4 Superfirm Matrices and Odd Holes -- 5 Four Infinite Classes of Minimally Non-firm Matrices -- 6 Conclusion -- References -- Few Induced Disjoint Paths for H-Free Graphs -- 1 Introduction -- 1.1 Related Work -- 1.2 Our Results -- 2 Polynomial-Time Algorithms -- 3 Completing the Proof of Theorem 2 -- 3.1 Omitting "H"-Graphs and Six-Vertex Cycles -- 4 Conclusions -- References -- On Permuting Some Coordinates of Polytopes -- 1 Introduction and Motivation -- 2 (More) Background and Related Work -- 2.1 Relevant Polytopes -- 3 Results -- 3.1 Parity Constraints via Partial Permutations -- 3.2 Partial Permutation over Quad-Valued Coordinates -- 3.3 Partial Permutation over Three-Valued Coordinates -- 3.4 Sorting Polytopes -- 4 Concluding Remarks -- References -- Non-linear Optimization -- Piecewise Linearization of Bivariate Nonlinear Functions: Minimizing the Number of Pieces Under a Bounded Approximation Error -- 1 Problem Description and State of the Art -- 2 Definitions -- 3 A Framework for Solving the R2-Corridor Fitting Problem -- 3.1 Key Idea 1: Management of the Corridor Domain -- 3.2 Key Idea 2: The Maximal Piece in Direction d Problem -- 3.3 Key Idea 3: Computing a Feasible Solution of a Maximal Piece in Direction d Problem -- 4 Framework Key Points Instantiation -- 4.1 Scoring the Quality of Pieces -- 4.2 Choose a Progress Direction -- 4.3 Inner Approximation of a Corridor -- 5 Numerical Experiments -- 6 Conclusion -- References -- An Outer-Approximation Algorithm for Maximum-Entropy Sampling -- 1 Introduction -- 2 Outer Approximation -- 3 Convex Relaxations for [MESP]MESP -- 4 Disjunctive Cuts -- 5 Experiments. 6 Next Steps -- References -- Mitigating Anomalies in Parallel Branch-and-Bound Based Algorithms for Mixed-Integer Nonlinear Optimization -- 1 Introduction -- 2 Anomalies in Parallel Algorithms -- 3 Opportunistic Parallel Branch-and-Bound in Minotaur -- 4 Reducing Detrimental Anomalies in Parallel NLP-BB -- 4.1 Unambiguous Branching Functions -- 4.2 Unambiguous Reliability Branching Scheme -- 4.3 A Hybrid Unambiguous Node Selection Strategy -- 4.4 Nondetrimental NLP-BB -- 5 Reducing Detrimental Anomalies in Parallel QG -- 6 Computational Results -- 7 Conclusions and Future Directions -- References -- Game Theory -- Exact Price of Anarchy for Weighted Congestion Games with Two Players -- 1 Introduction -- 2 Results -- 3 LP Based Proofs -- 4 Concluding Remarks -- References -- Nash Balanced Assignment Problem -- 1 Introduction -- 2 LP Formulation for BAP -- 3 Nash Fairness Solutions for the AP -- 3.1 Proportional Fairness -- 3.2 Characterization of NF Solutions for the AP -- 3.3 Existence of NF Solutions -- 4 Finding All NF Solutions for the AP -- 4.1 Upper Bound for the Number of NF Solutions -- 4.2 Algorithm for Finding All NF Solutions -- 4.3 Numerical Results -- 5 Conclusion -- References -- Graphs and Trees -- On the Thinness of Trees -- 1 Introduction -- 2 Definitions and Preliminaries -- 3 Characterization and Algorithm -- 3.1 The Algorithm: Rooted Trees, k-critical Vertices and Labels -- 3.2 Computing Thinness of Trees and

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