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Nota di contenuto	Supercharging Plant Configurations using Z3 -- Why You Should Constrain Your Machine Learned Models -- Contextual Optimization: Bridging Machine Learning and Operations -- A Computational Study of Constraint Programming Approaches for Resource-Constrained Project Scheduling with Autonomous Learning Effects -- Strengthening of feasibility cuts in logic-based Benders decomposition -- Learning Variable Activity Initialisation for Lazy Clause Generation Solvers -- A*-based Compilation of Relaxed Decision Diagrams for the Longest Common Subsequence Problem -- Partitioning Students into Cohorts

during COVID-19 -- A Two-Phases Exact Algorithm for Optimization of Neural Network Ensemble -- Complete Symmetry Breaking Constraints for the Class of Uniquely Hamiltonian Graphs -- Heavy-Tails and Randomized Restarting Beam Search in Goal-Oriented Neural Sequence Decoding -- Combining Constraint Programming and Temporal Decomposition Approaches - Scheduling of an Industrial Formulation Plant -- The Traveling Social Golfer Problem: the case of the Volleyball Nations League -- Towards a Compact SAT-based Encoding of Itemset Mining Tasks -- A Pipe Routing Hybrid Approach based on A-Star Search and Linear Programming -- MDDs boost equation solving on discrete dynamical systems -- Variable Ordering for Decision Diagrams: A Portfolio Approach -- Two Deadline Reduction Algorithms for Scheduling Dependent Tasks on Parallel Processors -- Improving the Filtering of Branch-And-Bound MDD solver -- On the Usefulness of Linear Modular Arithmetic in Constraint Programming -- Injecting Domain Knowledge in Neural Networks: a Controlled Experiment on a Constrained Problem -- Learning Surrogate Functions for the Short-Horizon Planning in Same-Day Delivery Problems -- Between Steps: Intermediate Relaxations between big-M and Convex Hull Formulations -- Logic-Based Benders Decomposition for an Inter-modal Transportation Problem -- Checking Constraint Satisfaction -- Finding Subgraphs with Side Constraints -- Short-term scheduling of production fleets in underground mines using CP-based LNS -- Learning to Reduce State-Expanded Networks for Multi-Activity Shift Scheduling -- SeaPearl: A Constraint Programming Solver guided by Reinforcement Learning -- Learning to Sparsify Travelling Salesman Problem Instances -- Optimized Item Selection to Boost Exploration for Recommender Systems -- Improving Branch-and-Bound using Decision Diagrams and Reinforcement Learning -- Physician Scheduling During a Pandemic.

Sommario/riassunto

This volume LNCS 12735 constitutes the papers of the 18th International Conference on the Integration of Constraint Programming, Artificial Intelligence, and Operations Research, CPAIOR 2021, which was held in Vienna, Austria, in 2021. Due to the COVID-19 pandemic the conference was held online. The 30 regular papers presented were carefully reviewed and selected from a total of 75 submissions. The conference program included a Master Class on the topic "Explanation and Verification of Machine Learning Models".