

- 148, TITLE: Athanor: High-Level Local Search Over Abstract Constraint Specifications in Essence  
<https://www.ijcai.org/proceedings/2019/148>  
AUTHORS: Saad Attieh, Nguyen Dang, Christopher Jefferson, Ian Miguel, Peter Nightingale  
HIGHLIGHT: This paper presents Athanor, a novel local search solver that operates on abstract constraint specifications of combinatorial problems in the Essence language.
- 149, TITLE: Constraint Programming for Mining Borders of Frequent Itemsets  
<https://www.ijcai.org/proceedings/2019/149>  
AUTHORS: Mohamed-Bachir Belaid, Christian Bessiere, Nadjib Lazaar  
HIGHLIGHT: We propose a generic framework based on constraint programming to mine both borders of frequent itemsets. One can easily decide which border to mine by setting a simple parameter.
- 150, TITLE: How to Tame Your Anticipatory Algorithm  
<https://www.ijcai.org/proceedings/2019/150>  
AUTHORS: Allegra De Filippo, Michele Lombardi, Michela Milano  
HIGHLIGHT: Given an arbitrary anticipatory algorithm, we present three methods that allow to retain its solution quality at a fraction of the online computational cost, via a substantial degree of offline preparation.
- 151, TITLE: Predict+Optimise with Ranking Objectives: Exhaustively Learning Linear Functions  
<https://www.ijcai.org/proceedings/2019/151>  
AUTHORS: Emir Demirovic, Peter J. Stuckey, James Bailey, Jeffrey Chan, Christopher Leckie, Kotagiri Ramamohanarao, Tias Guns  
HIGHLIGHT: Our contributions are two-fold: 1) we provide theoretical insight into the properties and computational complexity of predict+optimise problems in general, and 2) develop a novel framework that, in contrast to related work, guarantees to compute the optimal parameters for a linear learning function given any ranking optimisation problem.
- 152, TITLE: Privacy-Preserving Obfuscation of Critical Infrastructure Networks  
<https://www.ijcai.org/proceedings/2019/152>  
AUTHORS: Ferdinando Fioretto, Terrence W.K. Mak, Pascal Van Hentenryck  
HIGHLIGHT: The paper studies how to release data about a critical infrastructure network (e.g., a power network or a transportation network) without disclosing sensitive information that can be exploited by malevolent agents, while preserving the realism of the network.
- 153, TITLE: Solving the Satisfiability Problem of Modal Logic S5 Guided by Graph Coloring  
<https://www.ijcai.org/proceedings/2019/153>  
AUTHORS: Pei Huang, Minghao Liu, Ping Wang, Wenhui Zhang, Feifei Ma, Jian Zhang  
HIGHLIGHT: In this paper, we present a novel SAT-based approach for S5 satisfiability problem.
- 154, TITLE: DoubleLex Revisited and Beyond  
<https://www.ijcai.org/proceedings/2019/154>  
AUTHORS: Xuming Huang, Jimmy Lee  
HIGHLIGHT: The paper proposes Maximum Residue (MR) as a notion to evaluate the strength of a symmetry breaking method.
- 155, TITLE: Model-Based Diagnosis with Multiple Observations  
<https://www.ijcai.org/proceedings/2019/155>  
AUTHORS: Alexey Ignatiev, Antonio Morgado, Georg Weissenbacher, Joao Marques-Silva  
HIGHLIGHT: The paper proposes not only solutions to correct existing algorithms, but also conditions for improving their run times.
- 156, TITLE: Enumerating Potential Maximal Cliques via SAT and ASP  
<https://www.ijcai.org/proceedings/2019/156>  
AUTHORS: Tuukka Korhonen, Jeremias Berg, Matti Järvisalo  
HIGHLIGHT: We propose the use of declarative solvers for PMC enumeration as a substitute for the specialized PMC enumeration algorithms employed in current BT implementations.
- 157, TITLE: Entropy-Penalized Semidefinite Programming  
<https://www.ijcai.org/proceedings/2019/157>  
AUTHORS: Mikhail Krechetov, Jakub Marecek, Yury Maximov, Martin Takac  
HIGHLIGHT: In this paper, we propose Entropy-Penalized Semi-Definite Programming (EP-SDP), which provides a unified framework for a broad class of penalty functions used in practice to promote a low-rank solution.

- 158, TITLE: Acquiring Integer Programs from Data  
<https://www.ijcai.org/proceedings/2019/158>  
AUTHORS: Mohit Kumar, Stefano Teso, Luc De Raedt  
HIGHLIGHT: We propose ARNOLD, an approach that partially automates the modelling step by learning an integer program from example solutions.
- 159, TITLE: Stochastic Constraint Propagation for Mining Probabilistic Networks  
<https://www.ijcai.org/proceedings/2019/159>  
AUTHORS: Anna Louise D. Latour, Behrouz Babaki, Siegfried Nijssen  
HIGHLIGHT: For the specific case of monotonic distributions, we propose an alternative method: a new propagator for a global OBDD-based constraint.
- 160, TITLE: Optimizing Constraint Solving via Dynamic Programming  
<https://www.ijcai.org/proceedings/2019/160>  
AUTHORS: Shu Lin, Na Meng, Wenxin Li  
HIGHLIGHT: In this paper we present a different approach--DPSolver--which uses dynamic programming (DP) to efficiently solve certain types of constraint optimization problems (COPs).
- 161, TITLE: Constraint-Based Scheduling with Complex Setup Operations: An Iterative Two-Layer Approach  
<https://www.ijcai.org/proceedings/2019/161>  
AUTHORS: Adriana Pacheco, Cédric Pralet, Stéphanie Roussel  
HIGHLIGHT: In this paper, we consider scheduling problems involving resources that must perform complex setup operations between the tasks they realize.
- 162, TITLE: Phase Transition Behavior of Cardinality and XOR Constraints  
<https://www.ijcai.org/proceedings/2019/162>  
AUTHORS: Yash Pote, Saurabh Joshi, Kuldeep S. Meel  
HIGHLIGHT: In this paper, we present the first rigorous empirical study to characterize the runtime behavior of 1-CARD-XOR formulas.
- 163, TITLE: GANAK: A Scalable Probabilistic Exact Model Counter  
<https://www.ijcai.org/proceedings/2019/163>  
AUTHORS: Shubham Sharma, Subhajit Roy, Mate Soos, Kuldeep S. Meel  
HIGHLIGHT: In this paper, we revisit the architecture of the state-of-the-art dynamic decomposition-based #SAT tool, sharpSAT, and demonstrate that by introducing a new notion of probabilistic component caching and the usage of universal hashing for exact model counting along with the development of several new heuristics can lead to significant performance improvement over state-of-the-art model-counters.
- 164, TITLE: Unifying Search-based and Compilation-based Approaches to Multi-agent Path Finding through Satisfiability Modulo Theories  
<https://www.ijcai.org/proceedings/2019/164>  
AUTHORS: Pavel Surynek  
HIGHLIGHT: Our novel algorithm called SMT-CBS hence does not branch at the high-level but incrementally extends the propositional model.
- 165, TITLE: Integrating Pseudo-Boolean Constraint Reasoning in Multi-Objective Evolutionary Algorithms  
<https://www.ijcai.org/proceedings/2019/165>  
AUTHORS: Miguel Terra-Neves, Inês Lynce, Vasco Manquinho  
HIGHLIGHT: In this paper, we propose the integration of constraint-based procedures in evolutionary algorithms for solving MOCO.
- 166, TITLE: Resolution and Domination: An Improved Exact MaxSAT Algorithm  
<https://www.ijcai.org/proceedings/2019/166>  
AUTHORS: Chao Xu, Wenjun Li, Yongjie Yang, Jianer Chen, Jianxin Wang  
HIGHLIGHT: Particularly, we derive a branching algorithm of running time  $O^*(1.2989^m)$  for the MaxSAT problem, where  $m$  denotes the number of clauses in the given CNF formula.