## References: Decomposition, MAPF with Heuristics, Vehicle Routing, Inventory Routing and more.

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## References

- [ASK15] Zeyad Abd Algfoor, Mohd Shahrizal Sunar, and Hoshang Kolivand. "A comprehensive study on pathfinding techniques for robotics and video games". In: *International Journal of Computer Games Technology* 2015 (2015).
- [AL20] Shaull Almagor and Morteza Lahijanian. "Explainable multi agent path finding". In: Int'l Conference on Autonomous Agents and Multiagent Systems (AAMAS). 2020.
- [And+19] Anton Andreychuk et al. "Multi-agent pathfinding with continuous time". In: arXiv preprint arXiv:1901.05506 (2019).
- [BZ87] Harish C Bahl and Stanley Zionts. "Multi-item scheduling by Benders' decomposition". In: *Journal of the Operational Research Society* 38.12 (1987), pp. 1141–1148.
- [Bar+98] Jonathan F Bard et al. "A decomposition approach to the inventory routing problem with satellite facilities". In: *Transportation science* 32.2 (1998), pp. 189–203.
- [BH06] Yngvi Björnsson and Kári Halldórsson. "Improved Heuristics for Optimal Path-finding on Game Maps." In: AIIDE 6 (2006), pp. 9–14.
- [BS15] Adi Botea and Pavel Surynek. "Multi-agent path finding on strongly biconnected digraphs". In: *Proceedings of the AAAI Conference on Artificial Intelligence*. Vol. 29. 1. 2015.
- [BG05] Olli Bräysy and Michel Gendreau. "Vehicle routing problem with time windows, Part I: Route construction and local search algorithms". In: *Transportation science* 39.1 (2005), pp. 104–118.
- [CS04a] Ann Melissa Campbell and Martin Savelsbergh. "Efficient insertion heuristics for vehicle routing and scheduling problems". In: *Transportation science* 38.3 (2004), pp. 369–378.

- [CS04b] Ann Melissa Campbell and Martin WP Savelsbergh. "A decomposition approach for the inventory-routing problem". In: *Transportation science* 38.4 (2004), pp. 488–502.
- [CW06] Jeng-Fung Chen and Tai-Hsi Wu. "Vehicle routing problem with simultaneous deliveries and pickups". In: *Journal of the Operational Research Society* 57.5 (2006), pp. 579–587.
- [Chr99] Marielle Christiansen. "Decomposition of a combined inventory and time constrained ship routing problem". In: *Transportation science* 33.1 (1999), pp. 3–16.
- [CG00] Jean-Francois Cordeau and Québec) Groupe d'études et de recherche en analyse des décisions (Montréal. *The VRP with time windows*. Groupe d'études et de recherche en analyse des décisions Montréal, 2000
- [Cor+02] Jean-Francois Cordeau et al. "A guide to vehicle routing heuristics". In: *Journal of the Operational Research society* 53.5 (2002), pp. 512–522.
- [Cor+01] Jean-François Cordeau et al. "Benders decomposition for simultaneous aircraft routing and crew scheduling". In: *Transportation science* 35.4 (2001), pp. 375–388.
- [Cor+07] Jean-François Cordeau et al. "Vehicle routing". In: *Handbooks in operations research and management science* 14 (2007), pp. 367–428.
- [Cse+18] Bence Cserna et al. "Avoiding dead ends in real-time heuristic search". In: *Proceedings of the AAAI Conference on Artificial Intelligence*. Vol. 32. 1. 2018.
- [DDS92] Martin Desrochers, Jacques Desrosiers, and Marius Solomon. "A new optimization algorithm for the vehicle routing problem with time windows". In: *Operations research* 40.2 (1992), pp. 342–354.
- [Fel+17] Ariel Felner et al. "Search-based optimal solvers for the multi-agent pathfinding problem: Summary and challenges". In: *Tenth Annual Symposium on Combinatorial Search*. 2017.
- [Fel+18] Ariel Felner et al. "Adding heuristics to conflict-based search for multi-agent path finding". In: Proceedings of the International Conference on Automated Planning and Scheduling. Vol. 28. 1. 2018.
- [FKM21] Michael Freitag, Herbert Kotzab, and Nicole Megow. Dynamics in Logistics: Twenty-Five Years of Interdisciplinary Logistics Research in Bremen, Germany. 2021.
- [Geb+12] Martin Gebser et al. "Answer set solving in practice". In: Synthesis lectures on artificial intelligence and machine learning 6.3 (2012), pp. 1–238.
- [Geb+15] Martin Gebser et al. "Potassco user guide". In: Institute for Informatics, University of Potsdam, second edition edition (2015), p. 69.

- [Geb+19] Martin Gebser et al. "Multi-shot ASP solving with clingo". In: *Theory and Practice of Logic Programming* 19.1 (2019), pp. 27–82.
- [GHL94] Michel Gendreau, Alain Hertz, and Gilbert Laporte. "A tabu search heuristic for the vehicle routing problem". In: *Management science* 40.10 (1994), pp. 1276–1290.
- [GA86] Bruce L Golden and Arjang A Assad. "OR forum—perspectives on vehicle routing: exciting new developments". In: *Operations Research* 34.5 (1986), pp. 803–810.
- [Hal15] Kári Halldórsson. "Using Map Decomposition to Improve Pathfinding". 2015.
- [Hoo07] John N Hooker. "Planning and scheduling by logic-based Benders decomposition". In: *Operations research* 55.3 (2007), pp. 588–602.
- [HN95] John N Hooker and NR Natraj. "Solving a general routing and scheduling problem by chain decomposition and tabu search". In: *Transportation Science* 29.1 (1995), pp. 30–44.
- [KSW17] Roland Kaminski, Torsten Schaub, and Philipp Wanko. "A tutorial on hybrid answer set solving with clingo". In: *Reasoning Web International Summer School*. Springer. 2017, pp. 167–203.
- [Kam+20] Roland Kaminski et al. "How to build your own ASP-based system?!" In: arXiv preprint arXiv:2008.06692 (2020).
- [ESG22] Mohammed M. S. El-Kholany, Konstantin Schekotihin, and Martin Gebser. "Decomposition-Based Job-Shop Scheduling with Constrained Clustering". In: Practical Aspects of Declarative Languages.
  Ed. by James Cheney and Simona Perri. Cham: Springer International Publishing, 2022, pp. 165–180. ISBN: 978-3-030-94479-7.
- [KHS11] Mokhtar M Khorshid, Robert C Holte, and Nathan R Sturtevant. "A polynomial-time algorithm for non-optimal multi-agent pathfinding". In: Fourth Annual Symposium on Combinatorial Search. 2011.
- [LL20] Edward Lam and Pierre Le Bodic. "New valid inequalities in branchand-cut-and-price for multi-agent path finding". In: *Proceedings of* the International Conference on Automated Planning and Scheduling. Vol. 30. 2020, pp. 184–192.
- [Lam+19] Edward Lam et al. "Branch-and-Cut-and-Price for Multi-Agent Pathfinding." In: *IJCAI*. 2019, pp. 1289–1296.
- [LMP16] Leonardo Lamorgese, Carlo Mannino, and Mauro Piacentini. "Optimal train dispatching by Benders'-like reformulation". In: *Transportation Science* 50.3 (2016), pp. 910–925.
- [Lap09] Gilbert Laporte. "Fifty years of vehicle routing". In: *Transportation science* 43.4 (2009), pp. 408–416.
- [LRK21] Jiaoyang Li, Wheeler Ruml, and Sven Koenig. "EECBS: A Bounded-Suboptimal Search for Multi-Agent Path Finding". In: *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*. 2021.

- [Li+19] Jiaoyang Li et al. "Improved Heuristics for Multi-Agent Path Finding with Conflict-Based Search." In: *IJCAI*. Vol. 2019. 2019, pp. 442–449.
- [Li+20] Jiaoyang Li et al. "Lifelong Multi-Agent Path Finding in Large-Scale Warehouses." In: AAMAS. 2020, pp. 1898–1900.
- [Ma+17] Hang Ma et al. "Overview: Generalizations of multi-agent path finding to real-world scenarios". In: arXiv preprint arXiv:1702.05515 (2017).
- [Ma+19] Hang Ma et al. "Searching with consistent prioritization for multiagent path finding". In: *Proceedings of the AAAI Conference on Artificial Intelligence*. Vol. 33. 01. 2019, pp. 7643–7650.
- [MEB10] Will Maden, Richard Eglese, and Dan Black. "Vehicle routing and scheduling with time-varying data: A case study". In: *Journal of the Operational Research Society* 61.3 (2010), pp. 515–522.
- [Mau+16] Markus Maurer et al. Autonomous driving: technical, legal and social aspects. Springer Nature, 2016.
- [ORS19] Philipp Obermeier, Javier Romero, and Torsten Schaub. "Multishot stream reasoning in answer set programming: A preliminary report". In: *Open Journal of Databases (OJDB)* 6.1 (2019), pp. 33–38.
- [PDH08] Sophie N Parragh, Karl F Doerner, and Richard F Hartl. "A survey on pickup and delivery problems". In: *Journal für Betriebswirtschaft* 58.2 (2008), pp. 81–117.
- [RV91] Krishan Rana and RG Vickson. "Routing container ships using Lagrangean relaxation and decomposition". In: *Transportation Science* 25.3 (1991), pp. 201–214.
- [Rei13] Christian Reißner. "Researching Heuristic Functions to Detect and Avoid Dead Ends in Action Planning". Otto-Friedrich-University Bamberg, 2013.
- [SKH17] Steffen Schieweck, Gabriele Kern-Isberner, and Michael ten Hompel. "Various Approaches to the Application of Answer Set Programming in Order-picking Systems with Intelligent Vehicles." In: *IJCCI*. 2017, pp. 25–34.
- [Sha+15] Guni Sharon et al. "Conflict-based search for optimal multi-agent pathfinding". In: Artificial Intelligence 219 (2015), pp. 40–66.
- [Sie20] Stef Siekman. "Extending A\* to solve multi-agent pathfinding problems with waypoints". In: (2020).
- [Sil05] David Silver. "Cooperative Pathfinding." In: Aiide 1 (2005), pp. 117–122.
- [Sta10] Trevor Standley. "Finding optimal solutions to cooperative pathfinding problems". In: *Proceedings of the AAAI Conference on Artificial Intelligence*. Vol. 24. 1. 2010.

- [Ste+19] Roni Stern et al. "Multi-agent pathfinding: Definitions, variants, and benchmarks". In: Twelfth Annual Symposium on Combinatorial Search. 2019.
- [XJB04] Lin Xiao, Mikael Johansson, and Stephen P Boyd. "Simultaneous routing and resource allocation via dual decomposition". In: *IEEE Transactions on Communications* 52.7 (2004), pp. 1136–1144.
- [Zha+20] Han Zhang et al. "Multi-agent path finding with mutex propagation". In: *Proceedings of the International Conference on Automated Planning and Scheduling*. Vol. 30. 2020, pp. 323–332.