Tutorial "Stochastic Search Algorithms"

Selected References

Combinatorial Optimization, Stochastic Local Search

Metaheuristics, general

- E.H.L. Aarts and J.K. Lenstra, editors. *Local Search in Combinatorial Optimization.* John Wiley & Sons, 1997.

- E. Bonabeau, M. Dorigo, and G. Theraulaz. *From Natural to Artificial Swarm Intelligence.* Oxford University Press, 1999.

- D. Corne, M. Dorigo, and F. Glover, editors. *New Ideas in Optimization.* McGraw-Hill, London, 1999.

- H.H. Hoos. *Stochastic Local Search — Methods, Models, Applications.* Infix, St. Augustin, Germany, 1999.

- D. Karaboga and D.T. Pham. *Intelligent Optimisation Techniques.* Springer Verlag, Berlin, Germany, 2000.

- Z. Michalewicz and D. B. Fogel. *How to Solve It: Modern Heuristics.* Springer Verlag, Berlin, 1999.

- I.H. Osman and J.P. Kelly (Eds.). *Meta-Heuristics: Theory & Applications.* Kluwer Academic Publishers, Norwell, Massachusetts, 1996.

- I.H. Osman and G. Laporte. Metaheuristics: A Bibliography. *Annals of Operations Research,* 63:513–628, 1996.

- C.H. Papadimitriou and K. Steiglitz. *Combinatorial Optimization – Algorithms and Complexity.* Prentice Hall, 1982.

- C. Reeves (Ed.). *Modern Heuristic Techniques for Combinatorial Problems.* McGraw-Hill Book Company, 1993.

- V.J. Rayward-Smith (Ed.). *Modern Heuristic Search Methods.* John Wiley & Sons, 1996.

- S.M. Sait and H. Youssef. *Iterative Computer Algorithms with Applications to Engineering.* IEEE Computer Society Press, Los Alamitos, CA, USA, 1999.

- T. Stützle. *Local Search Algorithms for Combinatorial Problems — Analysis, Improvements, and New Applications.* Infix, St. Augustin, Germany, 1999.

- S. Voss, S. Martello, I.H. Osman, and C. Roucairol (Eds.). *Meta-Heuristics: Advances and Trends in Local Search Paradigms for Optimization.* Kluwer Academic Publishers, Norwell, Massachusetts, 1999.

Complexity Theory

- M.R. Garey and D.S. Johnson. *Computers and Intractability: A Guide to the Theory of NP-Completeness.* Freeman, San Francisco, CA, 1979.

- C.H. Papadimitriou. *Computational Complexity.* Addison-Wesley, 1994.

- D.S. Johnson, C.H. Papadimitriou, and M. Yannakakis. How Easy is Local Search? *Journal of Computer System Science,* 37:79–100, 1988.

Specific SLS Algorithms

Simulated Annealing

- E.H.L. Aarts, J.H.M. Korst, and P.J.M. van Laarhoven. Simulated Annealing. In E.H.L. Aarts and J.K. Lenstra, editors, *Local Search in Combinatorial Optimization,* pages 91–120. John Wiley & Sons, 1997.

- V. Cerný. A Thermodynamical Approach to the Traveling Salesman Problem. *Journal of Optimization Theory and Applications,* 45(1):41–51, 1985.

- R.W. Eglese. Simulated Annealing: A Tool for Operational Research. *European Journal of Operational Research,* 46:271–281, 1990.

- B. Hajek. Cooling Schedules for Optimal Annealing. *Mathematics of OR,* 13:311–329, 1988.

- D.S. Johnson, C.R. Aragon, L.A. McGeoch, and C. Schevon. Optimization by Simulated Annealing: An Experimental Evaluation: Part I, Graph Partitioning. *Operations Research*, 37(6):865–892, 1989.

- D.S. Johnson, C.R. Aragon, L.A. McGeoch, and C. Schevon. Optimization by Simulated Annealing: An Experimental Evaluation: Part II, Graph Coloring and Number Partitioning. *Operations Research*, 39(3):378–406, 1989.

- D.S. Johnson and L.A. McGeoch. The Travelling Salesman Problem: A Case Study in Local Optimization. In E.H.L. Aarts and J.K. Lenstra, editors, *Local Search in Combinatorial Optimization*, pages 215–310. John Wiley & Sons, 1997.

- S. Kirkpatrick, C.D. Gelatt Jr., and M.P. Vecchi. Optimization by Simulated Annealing. *Science*, 220:671–680, 1983.

- F. Romeo and A. Sangiovanni-Vincentelli. A Theoretical Framework for Simulated Annealing. *Algorithmica*, 6:302–345, 1991.

Tabu Search

- R. Battiti and G. Tecchiolli. The Reactive Tabu Search. *ORSA Journal on Computing*, 6(2):126–140, 1994.

- F. Glover. Future Paths for Integer Programming and Links to Artificial Intelligence. *Computers & Operations Research*, 13(5):533–549, 1986.

- F. Glover. Tabu Search – Part I. *ORSA Journal on Computing*, 1(3):190–206, 1989.

- F. Glover. Tabu Search – Part II. *ORSA Journal on Computing*, 2(1):4–32, 1990.

- F. Glover and M. Laguna. *Tabu Search*. Kluwer Academic Publishers, London, 1997.

- P. Hansen and B. Jaumard. Algorithms for the Maximum Satisfiability Problem. *Computing*, 44:279–303, 1990.

- A. Hertz, E. Taillard, and D. de Werra. A Tutorial on Tabu Search. In E.H.L. Aarts and J.K. Lenstra, editors, *Local Search in Combinatorial Optimization*, pages 121–136. John Wiley & Sons, 1997.

- É.D. Taillard. Robust Taboo Search for the Quadratic Assignment Problem. *Parallel Computing*, 17:443–455, 1991.

Evolutionary Algorithms

- T. Bäck. *Evolutionary Algorithms in Theory and Practice*. Oxford University Press, 1996.

- L.J. Fogel, A.J. Owens, and M.J. Walsh. *Artificial Intelligence Through Simulated Evolution*. John Wiley & Sons, New York, 1966.

- D.B. Fogel. *Evolutionary Computation: Toward a New Philosophy of Machine Intelligence*. IEEE Press, Piscataway, NJ, 1995.

- D.E. Goldberg. *Genetic Algorithms in Search, Optimization, and Machine Learning*. Addison-Wesley, 1989.

- J.H. Holland. *Adaption in Natural and Artificial Systems*. The University of Michigan Press, Ann Arbor, MI, 1975.

- J.R. Koza. *Genetic Programming*. MIT Press, Cambridge, MA, 1992.

- J.R. Koza. *Genetic Programming — 2*. MIT Press, Cambridge, MA, 1994.

- M. Mitchell. *An Introduction to Genetic Algorithms*. MIT Press, 1996.

- I. Rechenberg. *Evolutionsstrategie — Optimierung technischer Systeme nach Prinzipien der biologischen Information*. Fromman Verlag, Freiburg, 1973.

- H.-P. Schwefel. *Numerical Optimization of Computer Models*. John Wiley & Sons, Chichester, 1981.

- Z. Michalewicz. *Genetic Algorithms + Data Structures = Evolution Programs*. Springer Verlag, Berlin, 2nd. edition edition, 1994.

- P. Moscato. Memetic Algorithms: A Short Introduction. In D. Corne, M. Dorigo, and F. Glover, editors, *New Ideas in Optimization*, pages 219–234. McGraw-Hill, London, UK, 1999.

- H. Mühlenbein. Evolution in Time and Space – the Parallel Genetic Algorithm. In *Foundations of Genetic Algorithms*, pages 316–337. Morgan Kaufmann, San Mateo, 1991.

- P. Merz and B. Freisleben. Fitness landscapes and memetic algorithm design. In D. Corne, M. Dorigo, and F.Glover, eds, *New Ideas in Optimization*, pages 244–260. McGraw Hill, London, UK, 1999.

Iterated Local Search

- E.B. Baum. Towards Practical 'Neural' Computation for Combinatorial Optimization Problems. In *Neural Networks for Computing, AIP Conference Proceedings*, pages 53–64, 1986.

- P. Brucker, J. Hurink, and F. Werner. Improving Local Search Heuristics for some Scheduling Problems — Part II. *Discrete Applied Mathematics*, 72(1–2):47–69, 1997.

- O. Martin and S.W. Otto. Combining Simulated Annealing with Local Search Heuristics. *Annals of Operations Research*, 63:57–75, 1996.

- O. Martin, S.W. Otto, and E.W. Felten. Large-Step Markov Chains for the Traveling Salesman Problem. *Complex Systems*, 5(3):299–326, 1991.

- O. Martin and S.W. Otto. Partitoning of Unstructured Meshes for Load Balancing. *Concurrency: Practice and Experience*, 7:303–314, 1995.

- P. Hansen and N. Mladenović. An Introduction to Variable Neighborhood Search. In S. Voss, S. Martello, I.H. Osman, and C. Roucairol, editors, *Meta-Heuristics: Advances and Trends in Local Search Paradigms for Optimization*, pages 433–458. Kluwer, Boston, 1999.

- N. Mladenović and P. Hansen. Variable Neighborhood Search. *Computers & Operations Research*, 24:1097–1100, 1997.

- H.R. Lourenço. Job-Shop Scheduling: Computational Study of Local Search and Large-Step Optimization Methods. *European Journal of Operational Research*, 83:347–364, 1995.

- H.R. Lourenço, O. Martin, and T. Stützle. Iterated Local Search. To appear in *Handbook of Metaheuristics*, Kluwer.

- T. Stützle. Iterated Local Search for the Quadratic Assignment Problem. Technical Report AIDA–99–03, FG Intellektik, TU Darmstadt, 1999.

Ant Colony Optimization

- E. Bonabeau, M. Dorigo, and G. Theraulaz. *From Natural to Artificial Swarm Intelligence*. Oxford University Press, 1999.

- A. Colorni, M. Dorigo, and V. Maniezzo. Distributed Optimization by Ant Colonies. In *Proceedings of ECAL91 - European Conference on Artificial Life*, pages 134–142. Elsevier Publishing, 1991.

- M. Dorigo, V. Maniezzo, and A. Colorni. The Ant System: Optimization by a Colony of Cooperating Agents. *IEEE Transactions on Systems, Man, and Cybernetics – Part B*, 26(1):29–42, 1996.

- M. Dorigo and L.M. Gambardella. Ant Colony System: A Cooperative Learning Approach to the Traveling Salesman Problem. *IEEE Transactions on Evolutionary Computation*, 1(1):53–66, 1997.

- M. Dorigo and G. Di Caro. The Ant Colony Optimization Meta-heuristic. In D. Corne, M. Dorigo, and F. Glover, editors, *New Ideas in Optimization*, pages 11–32, McGraw-Hill, London, UK, 1999.

- M. Dorigo, G. Di Caro, and L. M. Gambardella. Ant Algorithms for Distributed Discrete Optimization. *Artificial Life*, 5 (1999) 137–172.

- M. Dorigo and T. Stützle. The Ant Colony Optimization Metaheuristic: Algorithms, Applications and Advances. To appear in *Handbook of Metaheuristics*, Kluwer.

- V. Maniezzo. Exact and Approximate Nondeterministic Tree-search Procedures for the Quadratic Assignment Problem. *INFORMS Journal on Computing*, 11(4):358–369, 1999.

- T. Stützle and H. H. Hoos. *MAX–MIN Ant System*. *Future Generation Computer Systems*, 16(8):889–914, 2000.

- T. Stützle and M. Dorigo. ACO Algorithms for the Quadratic Assignment Problem. In D. Corne, M. Dorigo, and F. Glover, editors, *New Ideas in Optimization*, pages 33–50, McGraw-Hill, London, UK, 1999.

- T. Stützle and M. Dorigo. ACO Algorithms for the Travelling Salesman Problem. In K. Miettinen, M.M. Mäkelä, P. Neittaanmäki, and J. Periaux, editors, *Evolutionary Algorithms in Engineering and Computer Science: Recent Advances in Genetic Algorithms, Evolution Strategies, Evolutionary Programming, Genetic Programming and Industrial Applications*. John Wiley & Sons, pp. 163–183, 1999.

- T. Stützle and H. H. Hoos. *MAX–MIN* Ant System and Local Search for Combinatorial Optimization Problems. In S. Voss, S. Martello, I.H. Osman, and C. Roucairol, editors, *Meta-Heuristics: Advances and Trends in Local Search Paradigms for Optimization*, pages 313–329. Kluwer, Boston, 1999.

Analysing and Characterising Stochastic Search Behaviour

- E. Angel and V. Zissimopoulos. Autocorrelation Coefficient for the Graph Bipartitioning Problem. *Theoretical Computer Science*, 191:229–243, 1998.

- E. Angel and V. Zissimopoulos. Towards a Classification of Combinatorial Optimization Problems Relatively to their Difficulty for Generalized Local Search Algorithms. Submitted to *Discrete Applied Mathematics*, 1999.

- R.S. Barr, B.L. Golden, J.P. Kelly, M.G.C. Resende, and W.R. Stewart. Designing and Reporting on Computational Experiments with Heuristic Methods. *Journal of Heuristics*, 1(1):9–32, 1995.

- K.D. Boese. *Models for Iterative Global Optimization.* PhD thesis, University of California, Computer Science Department, Los Angeles, USA, 1996.

- K.D. Boese, A.B. Kahng, and S. Muddu. A New Adaptive Multi-Start Technique for Combinatorial Global Optimization. *Operations Research Letters*, 16:101–113, 1994.

- C.C. McGeoch. Towards an Experimental Method for Algorithm Simulation. *IN-FORMS J. on Computing*, 8(1):1–15, 1996.

- D. Dannenbring. Estimating Optimal Solutions for Large Combinatorial Problems. *Management Science*, 23:1273–1283, 1977.

- C.P. Gomes, B. Selman, and H. Kautz. Boosting Combinatorial Search Trough Randomization. In *Proceedings of AAAI'98*, pages 431–437. MIT Press, 1998.

- J.N. Hooker. Needed: An Empirical Science of Algorithms. *Operations Research*, 42(2):201–212, 1994.

- J.N. Hooker. Testing Heuristics: We Have It All Wrong. *J. of Heuristics*, pages 33–42, 1996.

- H.H. Hoos and T. Stützle. Evaluating Las Vegas Algorithms — Pitfalls and Remedies. *Proceedings of UAI-98*, pages 238–245. Morgan Kaufmann Publishers, 1998.

- H.H. Hoos and T. Stützle. Towards a Characterisation of the Behaviour of Stochastic Local Search Algorithms for SAT. *Artificial Intelligence*, 112:213–232, 1999.

- H.H. Hoos. On the Run-time Behaviour of Stochastic Local Search Algorithms for SAT. In *Proceedings of AAAI'99*, pages 661–666. 1999.

- T. Jones and S. Forrest. Fitness Distance Correlation as a Measure of Problem Difficulty for Genetic Algorithms. In L.J. Eshelman, editor, *Proceedings of the 6th International Conference on Genetic Algorithms*, pages 184–192. Morgan Kaufman, San Francisco, 1995.

- G.R. Schreiber and O.C. Martin. Cut Size Statistics of Graph Bisection Heuristics. *SIAM Journal on Optimization*, 10(1):231–251, 1999.

- P.F. Stadler. Towards a Theory of Landscapes. Technical Report Technical Report SFI-95-03-030, Santa Fe Institute, 1995.

- V.K. Vassilev, T.C. Fogarty, and J.F. Miller. Information Characteristics and the Structure of Landscapes. *Evolutionary Computation*, 8(1):31–60, 2000.

- E.D. Weinberger. Correlated and Uncorrelated Fitness Landscapes and How to Tell the Difference. *Biological Cybernetics*, 63:325–336, 1990.

Applications

Stochastic Search for SAT

- R. Battiti and M. Protasi. Reactive Search, A History-Based Heuristic for MAX-SAT. *ACM Journal of Experimental Algorithmics*, 2, 1997.

- R.J. Bayardo Jr. and R.C. Schrag. Using CSP Look-back Techniques to Solve Real World SAT Instances. In *Proceedings of AAAI'97*, pages 203–208, 1997.

- A. Beringer, G. Aschemann, H.H. Hoos, M. Metzger, and A. Weiß. GSAT versus Simulated Annealing. In A.G. Cohn, editor, *Proceedings of ECAI'94*, pages 130–134. John Wiley & Sons, 1994.

- J.A. Boyan and A.W. Moore. Learning Evaluation Functions for Global Optimization and Boolean Satisfiability. In *Proceedings of AAAI'98*, pages 3–10. MIT Press, 1998.

- J. Frank. Weighting for Godot: Learning Heuristics for GSAT. In *Proceedings of AAAI'96*, pages 338–343. MIT Press, 1996.

- J. Frank. Learning Short-term Clause Weights for GSAT. In *Proceedings of IJ-CAI'97*, pages 384–389. Morgan Kaufmann Publishers, 1997.

- P. Galinier and J.-K. Hao. Tabu Search for Maximal Constraint Satisfaction Problems. In G. Smolka, editor, *Principles and Practice of Constraint Programming — CP97*, volume 1330 of *LNCS*, pages 196–208. Springer Verlag, 1997.

- I.P. Gent and T. Walsh. An Empirical Analysis of Search in GSAT. *Journal of Artificial Intelligence Research*, 1:47–59, 1993.

- I.P. Gent and T. Walsh. Towards an Understanding of Hill-Climbing Procedures for SAT. In *Proceedings of AAAI'93*, pages 28–33. MIT Press, 1993.

- I. Gent and T. Walsh. Unsatisfied Variables in Local Search. In J. Hallam, editor, *Hybrid Problems, Hybrid Solutions*, pages 73–85. IOS Press, 1995.

- J. Gu. Efficient Local Search for Very Large-Scale Satisfiability Problems. *SIGART Bulletin*, 3:8–12, 1992.

- H.H. Hoos and Thomas Stützle. Stochastic Local Search for SAT: An Empirical Evaluation. *Journal of Automated Reasoning*, 24(4):421–481, 2000.

- H.H.Hoos and Thomas Stützle. Towards a Characterisation of the Behaviour of Stochastic Local Search for SAT. *Artificial Intelligence*, 112:213–232, 1999.

- H.H. Hoos. On the Run-time Behaviour of Stochastic Local Search Algorithms for SAT. In *Proceedings of AAAI'99*, pages 661–666. 1999.

- H.H. Hoos and K. O'Neill. Stochastic Local Search Methods for Dynamic SAT – an Initial Investigation. In *Proc. of AAAI-2000 Workshop 'Leveraging Probability and Uncertainty in Computation'*, pages 22–26. 2000.

- D. McAllester, B. Selman, and H. Kautz. Evidence for Invariants in Local Search. In *Proceedings of AAAI'97*, pages 321–326. MIT Press, 1997.

- S. Minton, M.D. Johnston, A.B. Philips, and P. Laird. Minimizing Conflicts: A Heuristic Repair Method for Constraint Satisfaction and Scheduling Problems. *Artificial Intelligence*, 52:161–205, 1992.

- M.G.C. Resende, T.A. Feo. A GRASP for Satisfiability. In D.S. Johnson and M.A. Trick, editors. *Cliques, Coloring, and Satisfiability*, volume 26 of *DIMACS Series on Discrete Mathematics and Theoretical Computer Science*, pages 499–520, 1996.

- D. Schuurmans and F. Southey. Local Search Characteristics of Incomplete SAT Procedures. In *Proceedings of AAAI 2000*.

- D. Schuurmans, F. Southey, and R. Holte. The Exponentiated Subgradient Algorithm for Heuristic Boolean Programming. To appear in Proceedings of IJCAI-01.

- B. Selman, H. Levesque, and D. Mitchell. A New Method for Solving Hard Satisfiability Problems. In *Proceedings of AAAI'92*, pages 440–446. MIT Press, 1992.

9

- B. Selman, Henry A. Kautz. An Empirical Study of Greedy Local Search for Satisfiability Testing. In *Proceedings of AAAI'93*, pages 46–51. MIT Press, 1993.

- B. Selman, Henry A. Kautz, and B. Cohen. Noise Strategies for Improving Local Search. In *Proceedings of AAAI'94*, pages 337–343. MIT Press, 1994.

- W.M. Spears. Simulated Annealing for Hard Satisfiability Problems. Technical Report, Naval Research Laboratory, Washington D.C., 1993.

- O. Steinmann, A. Strohmaier, and T. Stützle. Tabu Search vs. Random Walk. In *Advances in Artificial Intelligence (KI97)*, volume 1303 of *LNAI*, pages 337–348. Springer Verlag, 1997.

- B.W. Wah and Y. Shang. Discrete Lagrangian-Based Search for Solving MAX-SAT Problems. In *Proceedings of IJCAI'97*, pages 378–393. Morgan Kaufmann Publishers, 1997.

- Z. Wu and B.W. Wah. Trap Escaping Strategies in Discrete Lagrangian Methods for Solving Hard Satisfiability and Maximum Satisfiability Problems. In *Proceedings of AAAI'99*, pages 673–678.

- Z. Wu and B.W. Wah. An Efficient Global-Search Strategy in Discrete Lagrangian Methods for Solving Hard Satisfiability Problems. In *Proceedings of AAAI 2000*, pages 310–315.

Traveling Salesman Problem

- D. Applegate, R. Bixby, V. Chvátal, and W. Cook. On the Solution of Travelling Salesman Problems. *Documenta Mathematica*, 3:645–656, 1998.

- D. Applegate, R. Bixby, V. Chvátal, and W. Cook. Finding tours in the TSP. Technical Report TR99-05, Departement of Computational and Applied Mathematics, Rice University, 1999. Available via http://www.keck.caam.rice.edu/concorde.html.

- J.L. Bentley. Fast algorithms for geometric traveling salesman problems. *ORSA Journal on Computing*, 4(4):387–411, 1992.

- D.S. Johnson and L.A. McGeoch. The Travelling Salesman Problem: A Case Study in Local Optimization. In E.H.L. Aarts and J.K. Lenstra, editors, *Local Search in Combinatorial Optimization*, pages 215–310. John Wiley & Sons, 1997.

- E.L. Lawler, J.K. Lenstra, A.H.G. Rinnooy Kan, and D.B. Shmoys. *The Travelling Salesman Problem*. John Wiley & Sons, 1985.

10

- S. Lin and B. W. Kernighan. An effective heuristic algorithm for the travelling salesman problem. *Operations Research*, 21:498–516, 1973.
- P. Merz and B. Freisleben. Genetic local search for the TSP: New results. In *Proc. of ICEC'97*, pages 159–164. IEEE Press, 1997.
- G. Reinelt. TSPLIB — A Traveling Salesman Problem Library. *ORSA Journal On Computing*, 3:376–384, 1991.
- T. Stützle, A. Grün, S. Linke, and M. Rüttger. A Comparison of Nature Inspired Heuristics on the Traveling Salesman Problem. *Proceedings of PPSN-VI*, Volume 1917 of LNCS, Springer Verlag, pages 661–670, 2000.
- T. Stützle and H.H. Hoos. Analyzing the Run-time Behaviour of Iterated Local Search for the TSP. To appear in C. Ribeiro and P. Hansen, editors, *Essays and Surveys in Metaheuristics*, Kluwer, 2001.

Quadratic Assignment Problem

- D.T. Connolly. An Improved Annealing Scheme for the QAP. *European Journal of Operational Research*, 46:93–100, 1990.
- C. Fleurent and J.A. Ferland. Genetic Hybrids for the Quadratic Assignment Problem. In P.M. Pardalos and H. Wolkowicz, editors, *Quadratic Assignment and Related Problems*, volume 16 of *DIMACS Series on Discrete Mathematics and Theoretical Computer Science*, pages 173–187. American Mathematical Society, 1994.
- L.M. Gambardella, É.D. Taillard, and M. Dorigo. Ant colonies for the QAP. *Journal of the Operational Research Society*, 50 (1999) 167–176.
- T. Stützle and M. Dorigo. ACO Algorithms for the Quadratic Assignment Problem. In D. Corne, M. Dorigo, and F. Glover, editors, *New Ideas in Optimization*. McGraw-Hill, pp. 33–50, 1999.
- É.D. Taillard. Robust Taboo Search for the Quadratic Assignment Problem. *Parallel Computing*, 17:443–455, 1991.
- É.D. Taillard. Comparison of Iterative Searches for the Quadratic Assignment Problem. *Location Science*, 3:87–105, 1995.

Scheduling / Single Machine Total Weighted Tardiness Problem

- T. S. Abdul-Razaq, C. N. Potts, and L. N. Van Wassenhove. A survey of algorithms for the single machine total weighted tardiness scheduling problem. *Discrete Applied Mathematics*, 26:235–253, 1990.
- M. den Besten, T. Stützle, and M. Dorigo. Ant Colony Optimization for the Total Weighted Tardiness Problem. In *Proceedings of PPSN-VI*, volume 1917 of LNCS, Springer Verlag, pages 611-620, 2000.
- R. K. Congram, C. N. Potts, and S. L. Van de Velde. An iterated dynasearch algorithm for the single-machine total weighted tardiness scheduling problem. Technical report, Faculty of Mathematical Studies, University of Southampton, December 1998.
- H. A. J. Crauwels, C. N. Potts, and L. N. Van Wassenhove. Local search heuristics for the single machine total weighted tardiness scheduling problem. *INFORMS Journal on Computing*. 10(3):341–350, 1998.
- H. Matsuo, C. J. Suh, and R. S. Sullivan. A controlled search simulated annealing method for the single machine weighted tardiness problem. Working paper 87-12-2, Department of Management, University of Texas at Austin, TX, 1987.
- M. Pinedo. *Scheduling — Theory, Algorithms, and Systems*. Prentice Hall, 1995.

Planning

- A.L. Blum and M.L. Furst. Fast planning through planning graph analysis. In *Proceedings of IJCAI-95*, pages 1636–1642, Morgan Kaufmann, San Mateo, CA, 1995.
- R. I. Brafman and H. H. Hoos. To Encode or not to Encode – I: Linear Planning. In *Proceedings of IJCAI-99*, pages 988–993, Morgan Kaufmann, San Mateo, CA, 1999.
- J. Hoffmann. A Heuristic for Domain Independent Planning and its Use in an Enforced Hill-climbing Algorithm. In: *Proceedings of the 12th International Symposium on Methodologies for Intelligent Systems, Charlotte, North Carolina, USA*, October 2000.
- J. Hoffmann and B. Nebel. The FF Planning System: Fast Plan Generation Through Heuristic Search. In: *Journal of Artificial Intelligence Research*, Volume 14, 2001, pages 253 – 302.

- H. Kautz and B. Selman. Planning as satisfiability. In Neumann, B., ed., *Proceedings of ECAI 1992*, pages 359–363, John Wiley & Sons, Ltd, 1992

- H. Kautz, D. McAllester, and B. Selman. Encoding Plans in Propositional Logic. In *Proceedings of KR'96*, pages 374–384, 1996.

- H. Kautz and B. Selman. Pushing the Envelope: Planning, Propositional Logic, and Stochastic Search. In *Proceedings of AAAI'96*, volume 2, pages 1194–1201. MIT Press, 1996.

Combinatorial Auctions

- H.H. Hoos and C. Boutilier. Solving Combinatorial Auctions using Stochastic Local Search. In *Proceedings of AAAI 2000*, pages 22–29. 2000.

- C. Boutilier and H.H. Hoos. Bidding Languages for Combinatorial Auctions. To appear in *Proceedings of IJCAI'01*.