

Bibliography: GA + Packing

Vladimir Gantovnik*, and Santosh Tiwari†
Clemson University

January 25, 2006

References

- [1] M. Adomowicz and A. Albano. Nesting two-dimensional shapes in rectangular modules. *Computer Aided Design*, 8:27–33, 1976.
- [2] U. Aickelin and K. A. Dowsland. An indirect genetic algorithm for a nurse scheduling problem. *Computers and Operations Research*, 31:761–778, 2004.
- [3] P. Andras, A. Andras, and S. Zsuzsa. A genetic solution for the cutting stock problem. In *Proceedings of the First On-line Workshop on Soft Computing*, pages 87–92, Berlin, 1996. Springer.
- [4] A. Autere. GA and 3D bin packing. In *Proceedings of the First Finnish Workshop on Genetic Algorithms and their Applications*, Helsinki University of Technology, Finland, November 1992.
- [5] B. S. Baker, E. G. Coffman, and R. L. Rivest. Orthogonal packing in two dimensions. *SIAM Journal of Computing*, 9:846–855, 1980.
- [6] J. E. Beasley. An exact two-dimensional non-guillotine cutting tree search procedure. *Operations Research*, 1:49–64, 1985.

*Research Associate, CREDO Laboratory, Department of Mechanical Engineering, Clemson University, Clemson, SC 29634-0921, vbg1975@clemson.edu

†Graduate Student, CREDO Laboratory, Department of Mechanical Engineering, Clemson University, Clemson, SC 29634-0921, stiwari@clemson.edu

- [7] A. Bortfeldt. A genetic algorithm for the container loading problem. In Rayward-Smith, editor, *Proceedings of the Unicom Seminar on Adaptive Computing and Information Processing*, pages 749–757, 1994.
- [8] A. Bortfeldt. A genetic algorithm for the container loading problem. In *Proceedings of the Conference on Adaptive Computing and Information Processing*, volume 2, pages 25–32, London, 1994.
- [9] J. Cagan, K. Shimada, and S. Yin. A survey of computational approaches to three-dimensional layout problems. *Computer Aided Design*, 34(8):597–611, 2002.
- [10] P. Chen, Z. Fu, A. Lim, and B. Rodrigues. Two-dimensional packing for irregular shaped objects. In *Proceedings of the 36th Hawaii International Conference on System Sciences*, 2003.
- [11] N. Christfides and C. Whitlock. An algorithm for two-dimensional cutting problems. *Operations Research*, 25:30–44, 1977.
- [12] E. G. Coffman, M. R. Garey, and D. S. Johnson. Approximation algorithms for bin-packing - an updated survey. In *Algorithm Design for Computer System Design*, pages 49–106. Springer-Verlag, Vienna, 1984.
- [13] A. L. Corcoran and R. L. Wainwright. A genetic algorithm for packing in three dimensions. In *Proceedings of the 1992 ACM/SIGAPP Symposium on Applied Computing (SAC92)*, pages 1021–1030, Kansas City, March 1992.
- [14] A. L. Corcoran and R. L. Wainwright. A genetic algorithm for packing in three dimensions. In *Applied computing technological challenges of the 1990s*, volume 2. ACM Press, New York, 1992.
- [15] C. H. Dagli and P. Poshyanonda. New approaches to nesting rectangular patterns. *Journal of Intelligent Manufacturing*, 8:177–190, 1997.
- [16] L. Davis. Applying adaptive search algorithms to epistatic domains. In *Proceedings of the 9th International Joint Conference on Artificial Intelligence*, pages 162–164, Los Angeles, 1985.
- [17] K. A. Dowsland. Some experiments with simulated annealing techniques for packing problems. *European Journal of Operational Research*, 68:389–399, 1993.

- [18] K. A. Dowsland and W. B. Dowsland. Packing problems. *European Journal of Operational Research*, 56:2–14, 1992.
- [19] K. A. Dowsland and W. B. Dowsland. Solution approaches to irregular nesting problems. *European Journal of Operational Research*, 84(3):506–521, 1995.
- [20] K. A. Dowsland, E. A. Herbert, G. Kendall, and E. Burke. Using tree search bounds to enhance a genetic algorithm approach to two rectangle packing problems. *European Journal of Operational Research*, 168:390–402, 2006.
- [21] W. B. Dowsland. Three-dimensional packing - solution approaches and heuristic development. *Int J. Prod. Res*, 29(8):1673–1685, 1991.
- [22] H. Dyckhoff. A typology of cutting and packing problems. *European Journal of Operational Research*, 44(2):145–159, 1990.
- [23] G. M. Fadel and A. Sinha. Packing optimization using a rubber band analogy. In *Proceedings of ASME, DETC*, 2001.
- [24] E. Falkenauer. A hybrid grouping genetic algorithm for bin packing. Technical Report CP 106-P4, CRIF - Research Centre for Belgian Metalworking Industry, Brussels, Belgium, 1994.
- [25] E. Falkenauer. A hybrid grouping genetic algorithm for bin packing. *Journal of Heuristics*, 2:5–30, 1996.
- [26] E. Falkenauer. *Genetic Algorithm and Grouping Problems*. Wiley, New York, 1998.
- [27] O. Faroe and D. Zachariasen. Guided local search for the three-dimensional bin packing problem. *INFORMS Journal on Computing*, 15:267–283, 2003.
- [28] S. P. Fekete and J. Schepers. A combinatorial characterization of higher-dimensional orthogonal packing. *Mathematics of Operations Research*, 29:353–368, 2004.

- [29] E. Felkenauer and A. Delchambre. A genetic algorithm for bin-packing and line balancing. In *Proceedings of the 1992 IEEE International Conference on Robotics and Automation*, volume 2, pages 1186–1192, Nice, France, 1992.
- [30] H. Gehring and A. Bortfeldt. A genetic algorithm for solving the container loading problem. *International Transactions in Operational Research*, 4(4/5):401–418, 1997.
- [31] H. Gehring, K. Menschner, and M. Meyer. A computer-based heuristic for packing pooled shipment containers. *European Journal of Operational Research*, 44:277–288, 1990.
- [32] J. A. George, J. M. George, and B. W. Lamar. Packing different-sized circles into a rectangular container. *European Journal of Operational Research*, 84:693–712, 1995.
- [33] J. A. George and D. F. Robinson. A heuristic for packing boxes into a container. *Computers & Operational Research*, 7:147–156, 1980.
- [34] P. M. Grignon. *Configuration Design Optimization Method*. PhD thesis, Clemson University, May 1999.
- [35] R. W. Haessler and F. B. Talbot. Load planning for shipments of low density products. *European Journal of Operational Research*, 44:289–299, 1990.
- [36] R. W. Hassler and P. E. Sweeney. Cutting stock problems and solution procedures. *European Journal of Operational Research*, 54(2):141–150, 1991.
- [37] E. A. Herbert and K. A. Dowsland. A family of genetic algorithms for the pallet loading problem. *Annals of Operations Research*, 63:415–436, 1996.
- [38] R. Hinterding and L. Khan. Genetic algorithms for cutting stock problems: with and without contiguity. In X. Yao, editor, *Progress in Evolutionary Computation*, pages 166–186. Springer, Berlin, Germany, 1995.
- [39] E. Hopper and B. C. H. Turton. Application of genetic algorithms to packing problems - a review. In *Proceedings of the Second On-line World*

Conference of Soft Computing in Engineering Design and Manufacturing, pages 279–288, London, 1997. Springer.

- [40] E. Hopper and B. C. H. Turton. A genetic algorithm for a 2D industrial packing problem. *Computers and Industrial Engineering*, 37(1–2):375–378, 1999.
- [41] E. Hopper and B. C. H. Turton. An empirical investigation of meta-heuristic and heuristic algorithms for a 2D packing problem. *European Journal of Operational Research*, 128(1):34–57, 2000.
- [42] E. Hopper and B. C. H. Turton. A review of the application of meta-heuristic algorithms to 2D strip packing problems. *Artificial Intelligence Review*, 16:257–300, 2001.
- [43] W. Hower, D. Köstner, and M. Rosendahl. Computer-aided layout by evolutionary computing. In *5th Eurographics Workshop on Programming Paradigms in Graphics*, Maastricht, The Netherlands, September 2–3 1995. EUROGRAPHICS, The European Association for Computer Graphics.
- [44] S. M. Hwang, Y. K. Cheng, and J. T. Horng. On solving rectangle bin packing problems using genetic algorithm. In *Proceedings of the 1994 IEEE International Conference on Systems, Man and Cybernetics*, pages 1583–1590, Piscataway, NJ, USA, 1994. IEEE.
- [45] I. Ikonen. *A genetic algorithm for a three-dimensional non-convex bin packing problem*. PhD thesis, University of Louisville, 1998.
- [46] I. Ikonen, W. E. Biles, A. Kumar, and R. K. Ragade. Concepts for a genetic algorithm for packing 3d objects of complex shape. In *Proceedings of the 1st Online Workshop on Soft Computing*, pages 211–215, Nagoya University, 1996.
- [47] I. Ikonen, W. E. Biles, A. Kumar, J. C. Wissel, and R. K. Ragade. A genetic algorithm for packing three-dimensional non-convex objects having cavities and holes. In *Proceedings of the Seventh International Conference on Genetic Algorithms*, pages 591–598, Michigan State University, 1997.

- [48] N. Ivancic, K. Mathur, and B. Mohanty. An integer programming based heuristic approach to the three-dimensional packing problem. *Journal of Manufacturing and Operations Management*, 2:268–298, 1989.
- [49] K. Kado, P. Ross, and D. Corne. A study of genetic algorithm hybrids for facility layout problem. In *Proceedings of the Sixth International Conference on Genetic Algorithms*, pages 498–505, 1995.
- [50] T. Kampke. Simulated annealing: Use of a new tool in bin-packing. *Annals of Operational Research*, 16:327–332, 1988.
- [51] B. Kroger. Guillontineable bin-packing: A genetic approach. *European Journal of Operational Research*, 84:645–661, 1995.
- [52] B. Kroger, P. Schwenderling, and O. Vornberger. Genetic packing of rectangles on transputers. In *Transputing, part 2*, pages 593–608. IOS Press, Amsterdam, 1991.
- [53] B. Kroger, P. Schwenderling, and O. Vornberger. Parallel genetic packing of rectangles. In *Parallel Problem Solving from Nature 1st Workshop*, pages 160–164. Springer Verlag, 1991.
- [54] B. Kroger, P. Schwenderling, and O. Vornberger. Parallel genetic packing on transputers. In J. Stender, editor, *Parallel Genetic Algorithms: Theory and Applications*, pages 151–185. IOS Press, Amsterdam, 1993.
- [55] K. K. Lai and W. M. Chan. An evolutionary algorithm for the rectangular cutting stock problem. *International Journal of Industrial Engineering*, 4:130–139, 1997.
- [56] M. D. Landon and R. J. Balling. Optimal packing of complex parametric solids according to mass property criteria. *Journal of mechanical Design*, pages 375–381, 1994.
- [57] J. E. Lewis. *Strategies of distributed genetic algorithms for three-dimensional bin-packing in a SLS machine*. PhD thesis, University of Louisville, 2003.
- [58] J. E. Lewis, R. K. Ragade, A. Kumar, and W. E. Biles. A distributed chromosome genetic algorithm for bin-packing. *Robotics and Computer-Integrated Manufacturing*, 21:486–495, 2005.

- [59] J. L. Lin, B. Foote, S. Pulat, C. H. Chang, and J. Y. Cheung. Hybrid genetic algorithm for container packing in three dimensions. In *Proceedings of the 9th IEEE Conference on Artificial Intelligence*, pages 353–359, Washington, DC, 1993. IEEE Computer Society Press.
- [60] D. Liu and H. Teng. An improved BL-algorithm for genetic algorithm of the orthogonal packing of rectangles. *European Journal of Operational Research*, 112:413–420, 1999.
- [61] A. Lodi, S. Martello, and M. Monaci. Two-dimensional packing problems: a survey. *European Journal of Operational Research*, 141:241–252, 2002.
- [62] A. Lodi, S. Martello, and D. Vigo. Heuristic and metaheuristic approaches for a class of two-dimensional bin packing problems. *INFORMS Journal of Computing*, 11(4):345–357, 1999.
- [63] C. L. Mumford-Valenzuela, J. Vick, and P. Y. Wang. Heuristics for large strip packing problems with guillotine patterns: An empirical study. In *Metaheuristics: Computer Decision-Making*, pages 501–522. Kluwer Academic Publishers, 2003.
- [64] P. Poshyanonda and C. H. Dagli. Genetic neuro-nester. *Journal of Intelligent Manufacturing*, 15:201–218, 2004.
- [65] P. Prosser. A hybrid genetic algorithm for container loading. In *Proceedings of the 8th European Conference on Artificial Intelligence*, pages 159–164, Pitman, London, November 1988.
- [66] G. R. Raidl and G. Kodydek. Genetic algorithms for the multiple container packing problem. In *Proceedings of the 5th Int. Conference on Parallel Problem Solving from Nature*, pages 875–884, Amsterdam, The Netherlands, 1998.
- [67] K. Ratanapan and C. H. Dagli. An object-based evolutionary algorithm for solving rectangular piece nesting problems. In *Proceedings of the IEEE Conference on Evolutionary Computation 1997, ICEC 97*, pages 989–994, Piscataway, NJ, 1997. IEEE.

- [68] K. Ratanapan and C. H. Dagli. An object-based evolutionary algorithm: The nesting solution. In *Proceedings of the IEEE Conference on Evolutionary Computation 1998, ICEC 98*, pages 581–586, Piscataway, NJ, 1998. IEEE.
- [69] C. Reeves. Hybrid genetic algorithms for bin-packing and related problems. *Annals of Operations Research*, 63:371–396, 1996.
- [70] J. Sakait and C. G. Hae. Two-dimensional packing problems using genetic algorithms. *Engineering with Computers*, 14:206–213, 1998.
- [71] D. Smith. Bin-packing with adaptive search. In Grefenstette, editor, *Proceedings of an International Conference on Genetic Algorithms and their Applications*, pages 202–206, London, 1985. Lawrence Erlbaum.
- [72] N. Smith, W. Hills, and G. Cleland. A layout design system for complex made-to-order products. *Journal of Engineering Design*, 7(4):363–375, 1996.
- [73] S. Szykman and J. Cagan. A simulated annealing-based approach to three dimensional component packing. *Journal of Mechanical Design*, 117:308–314, 1995.
- [74] H. Teng, S. Sun, D. Liu, and Y. Li. Layout optimization for the objects located within a rotating vessel - a three-dimensional packing problem with behavioral constraints. *Computers & Operational Research*, 28:521–535, 2001.
- [75] J. R. Wodziak. Optimal Packing Utilizing Genetic Algorithms. Master’s thesis, Clemson University, 1994.
- [76] J. R. Wodziak and G. M. Fadel. Packing and optimization the center of gravity location using a genetic algorithm. *Journal of Computers in Industry*, 1994.
- [77] J. R. Wodziak, G. M. Fadel, and C. Kirschman. A genetic algorithm for optimizing multiple part placement to reduce build time. In *Proceedings of the 5th International Conference on Rapid Prototyping*, pages 201–210, Dayton, Ohio, June 1994.

- [78] H. W. Yeung and K. S. Tang. Strip-packing using hybrid genetic approach. *Engineering Applications of Artificial Intelligence*, 17:169–177, 2004.
- [79] S. Yin and J. Cagan. An extended pattern search algorithm for three dimensional component layout. *Journal of Mechanical Design*, 122:102–108, 2000.