

Refereed papers in professional journals

Journals

1. Bar-Yehuda, R. and S. Even. A linear time approximation algorithm for the weighted vertex cover problem. *Journal of Algorithms*, 2:198–203, 1981.
2. Bar-Yehuda, R. and U. Vishkin. Complexity of finding k-path-free dominating sets in graphs. *Information Processing Letters*, 14(5):228–232, 1982.
3. Bar-Yehuda, R. and S. Moran. On approximation problems related to the independent set and vertex cover problems. *Discrete Applied Mathematics*, 9:1–10, 1984.
4. Bar-Yehuda, R. and S. Even. A Local-Ratio Theorem for Approximating the Weighted Vertex Cover problem. *Annals of Discrete Mathematics*, 25:27–46, 1985.
5. Bar-Yehuda, R. and S. Kutten. Fault tolerant distributed majority commitment. *Journal of Algorithms*, 9(4):568–582, December 1988.
6. Bar-Yehuda, R., J. A. Feldman, R. Y. Pinter, and S. Wimer. Depth first search and dynamic programming algorithms for efficient CMOS cell generation. *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*, 8(7), 1989.
7. Bar-Yehuda, R., O. Goldreich, and A. Itai. Efficient emulation of single-hop radio network with collision detection on multi-hop radio network with no collision detection. *Distributed Computing*, 5(2):67–72, 1991.
8. Bar-Yehuda, R., O. Goldreich, and A. Itai. On the time-complexity of broadcast in multi-hop radio networks: An exponential gap between determinism and randomization. *Journal of Computer and System Sciences*, 45:104–126, 1992.
9. Bar-Yehuda, R., T. Etzion, and S. Moran. Rotating-table games and derivatives of words. *Theoretical Computer Science*, 108:311–329, 1993.
10. Bar-Yehuda, R. and S. Fogel. Variations on ray shooting. *Algorithmica*, 11:133–145, 1994.
11. Bar-Yehuda, R. and T. Etzion. Connections between two cycles – A new design of dense processor interconnection networks. *Discrete Applied Mathematics and Combinatorial Operations Research and Computer Science*, 38:29–43, 1992.
12. Bar-Yehuda, R., B. Chor, E. Kushilevitz, and A. Orlitsky. Privacy, additional information, and communication. *IEEE Transactions on Information Theory*, 39(6):1930–1943, 1993.
13. Bar-Yehuda, R., A. Israeli, and A. Itai. Multiple communication in multi-hop radio networks. *SIAM Journal on Computing*, 22(4):875–887, August 1993.
14. Bar-Yehuda, R. and B. Chazelle. Triangulating disjoint Jordan chains. *Int. J. of Computational Geometry & Appl.*, 4(4):475–481, 1994.
15. Bar-Yehuda, R. and E. Ben-Hanoch. A linear time algorithm for covering simple polygons with similar rectangles. *Int. J. of Computational Geometry & Appl.*, 6(1):79–102, 1996.
16. Bar-Yehuda, R. C. Gotsman. Time/space tradeoffs for polygon mesh rendering. *ACM Trans. on Graphics*, 15(2):141–152, 1996.

17. Cohen, S., G. Elber, and R. Bar-Yehuda. Matching of freeform curves. *Computer Aided Design*, 29(5):369–378, 1997.
18. Bar-Yehuda, R., D. Geiger, J. Naor, and R. Roth. Approximation Algorithms for the Feedback Vertex Set Problem with Applications to Constraint Satisfaction and Bayesian Inference, *SIAM Journal on Computing*, 27(4):942–959, 1998.
19. Bar-Yehuda, R. and S. Fogel. Partitioning a sequence into few monotone subsequences. *Acta Informatica*, 35:421-440, 1998.
20. Becker, A., R. Bar-Yehuda, and D. Geiger. Randomized Algorithms for the Loop Cutset Problem, *Journal Artificial Intelligence Research* 12:219–234, 2000.
21. Bar-Yehuda, R., One for the Price of Two: A Unified Approach for Approximating Covering Problems, *Algorithmica* 27(2), 2000:131–144, 2000.
22. Bar-Yehuda, R. and D. Rawitz. Efficient Algorithms for Integer Programs with Two Variables per Constraint, *Algorithmica* 29(4):595-609, 2001.
23. Bar-Yehuda, R., Using Homogeneous Weights for Approximating the Partial Cover Problem, *Journal of Algorithm*, 39:137–144, 2001.
24. Bar-Noy A., R. Bar-Yehuda, A. Freund, S. Naor, and B. Schieber, A unified approach to approximating resource allocation and scheduling, *Journal of the ACM* 48(5):1069–1090, 2001.
25. Bar-Yehuda R., G. Even, J. Feldman, and S. Naor, Computing an optimal orientation of a balanced decomposition tree for linear arrangement problems, *Journal of Graph Algorithms and Applications*, 5:1–27, 2001.
26. Bar-Yehuda R. and D. Rawitz, Approximating Element-Weighted Vertex Deletion Problems for the Complete k-partite Property, *Journal of Algorithms*, 42(1):20–40, 2002
27. Bar-Yehuda, R. and D. Rawitz. Local ratio with negative weights, *Operations Research Letters*, 32(6):540-546, 2004.
28. Bar-Yehuda, R. and Z. Kehat, Approximating the Dense Set-Cover Problem *Journal of Computer and System Sciences* 69(4):547-561, 2004.
29. Bar-Yehuda, R., K. Bendel, A. Freund, and D. Rawitz, Local ratio: A unified framework for approximation algorithms in memoriam: Shimon Even 1935-2004, *ACM Computing Surveys*, 36, 4, 422-463, 2004.
30. R. Bar-Yehuda, Even G., and S. Shahar, On approximating a geometric prize-collecting traveling salesman problem with time windows, *Journal of Algorithms*, 55(1):76-92 2005.
31. Bar-Yehuda, R., D. Rawitz, On the Equivalence Between the Primal-Dual Schema and the Local-Ratio Technique, *SIAM Journal on Discrete Mathematics* 19(3):762-797, 2005.
32. R. Bar-Yehuda and D. Rawitz, Using Fractional Primal-Dual to Schedule Split Intervals with Demands. *Discrete Optimization* 3(4): 275-287, 2006.
33. Bar-Yehuda R., M. M. Halldorsson, J. Naor, H. Shachnai and I. Shapira, Scheduling Split Intervals, *Siam Journal on Computing*, Vol. 36, No. 1, 1–15, 2006.
34. Bar-Yehuda R. and I. Yavneh, A Factor-Two Approximation Algorithm for Two-Dimensional Phase-Unwrapping, *J. Graph Algorithms and Applications*, 10, 2 123-139, 2006.

35. R. Bar-Yehuda and J. Laserson, Exploiting Locality: Approximating Sorting Buffers, *Journal of Discrete Algorithms*, Vol. 5, Issue 4, 729-738, 2007.
36. R. Bar-Yehuda I. Feldman and D. Rawitz, Improved Approximation Algorithm for Convex Recoloring of Trees. *Theory of Computing Systems* 43, 3-18, 2008.

Accepted (or in press) Papers

37. R. Bar-Yehuda, M. Beder, Y. Cohen, and D. Rawitz. Approximation algorithms for resource allocation in bounded degree trees. *Algorithmica*,
38. R. Zohar and R. Bar Yehuda The Maximum Weight Hierarchy Matching Problem, Accepted to *Journal of information Fusion*

Book Chapters

1. Reuven Bar-Yehuda, Keren Bendel, Ari Freund, and Dror Rawitz. The local ratio technique and its application to scheduling and resource allocation problems. In Graph Theory, Combinatorics, and Algorithms: Interdisciplinary Applications. Martin C. Golumbic, Irith Ben-Arroyo Hartman (Eds.), *Operations Research & Computer Science Series* 33, 2005.
2. Reuven Bar-Yehuda and Dror Rawitz. A tale of two methods. In Theoretical Computer Science: Essays in Memory of Shimon Even. Oded Goldreich, Arnold L. Rosenberg, and Alan L. Selman (Eds.), LNCS 3895:196-217, Springer-Verlag, 2006.

Refereed Papers in Conference Proceedings

1. Bar-Yehuda, R. and S. Even. On Approximating a Vertex Cover for Planar Graphs, Proceeding of the Fourteenth Annual ACM Symposium on Theory of Computing (STOC), San Francisco, California, May 5-7, 1982, pp. 303-309.
2. Bar-Yehuda, R., O. Goldreich, and A. Itai. On the Time-Complexity of Broadcast in Radio Networks: An Exponential Gap Between Determinism and Randomization. Proceeding of the 6-th Annual ACM Symposium on Principles of Distributed Computing (PODC), Vancouver, British Columbia, Canada, Aug 10-12, 1987, pp. 98-108. (the same as (8))
3. Bar-Yehuda, R., S. Kutten, Y. Wolfstahl, and S. Zaks. Making Distributed Algorithms Fault-Resilient, Symposium on Theoretical Aspects of Computer Science (STACS), 1987 Passau, Germany. (Contains Reference (5))
4. Bar-Yehuda, R., J. A. Feldman, R. Y. Pinter and S. Wimer. Depth First Search and Dynamic Programming Algorithms for Efficient CMOS Cell Generation. The 5-th MIT Conference on VLSI, 1988. (the same as (6))
5. Bar-Yehuda, R., A. Israeli, and A. Itai, Multiple Communication in Multi-Hop Radio Networks, Proceeding of the 8-th Annual ACM Symposium on Principles of Distributed Computing (PODC), Canada, Aug 14-16, 1989. (the same as (12))
6. Bar-Yehuda, R., O. Goldreich, and A. Itai. Efficient Emulation of Single-Hop Radio network with Collision Detection on Multi-Hop Radio network with no Collision Detection the 3rd International Workshop on Distributed Algorithms. Nice, France, September 26-28, 1989. (the same as (7))

7. Bar-Yehuda, R., B. Chor, and E. Kushilevitz, Privacy, Additional Information, and Communication, 5th IEEE Structure in Complexity Theory, July 1990, pp. 55-65. (Contained in (13))
8. Bar-Yehuda, R., and S. Fogel, Good Splitters with Application to Ray Shooting, Second Canadian Conference on Computational Geometry, Ottawa, Ontario, Canada, August 6-10, 1990. (related to (11), (14))
9. Bar-Yehuda, R., and E. Ben-Hanoch, An $O(N \log^* N)$ Time Algorithm for Covering Simple Polygons With Squares, Second Canadian Conference on Computational Geometry, Ottawa, Ontario, Canada, August 6-10, 1990. (Contained in (15))
10. Bar-Yehuda, R., and R. Grinwald, Triangulating Polygons with Holes, Second Canadian Conference on Computational Geometry, Ottawa, Ontario, Canada, August 6-10, 1990.
11. Bar-Yehuda, R., and R. Grinwald, Merging Polygonal Obstacles, 7th Israeli Symposium on Artificial Intelligence and Computer Vision, Tel Aviv, Dec. 1990. (Continuation of the previous conf.)
12. Bar-Yehuda, R., V. Dabholkar, K. Govindarajan and D. Sivakumar, Randomized Local Approximations with applications to the MAX-CLIQUE problem, Poster in SECOND DIMACS CHALLENGE, (Cliques, Coloring, and Satisfiability), 1993.
13. Bar-Yehuda, R., D. Geiger, J. Naor and R. Roth, Approximation algorithms for the vertex feedback set problem with applications to constraint satisfaction and bayesian inference, Proceedings of the 5th Annual ACM-Siam Symposium on Discrete Algorithms, Arlington, Virginia, (1994). (Contained in (18))
14. Bar-Yehuda, R., A. Efrat and A. Itai, A simple algorithm for maintaining the center of a planar point-set, Fifth Canadian Conference on Computational Geometry, 252-257, 1993.
15. Bar-Yehuda R., One for the Price of Two: A Unified Approach for Approximating Covering Problems, APPROX 1998 - First International Workshop on Approximation Algorithms for Combinatorial Optimization Problems, Aalborg, Denmark, July 17-18, 1998. (Contained in (21))
16. Bar-Yehuda R., Using Homogeneous Weights for Approximating the Partial Cover Problem, Tenth Annual ACM-SIAM Symposium on Discrete Algorithms, January 17-19, 1999. (Contained in (23))
17. Makbily, Y., C. Gotsman and R. Bar-Yehuda, Geometric Algorithms for Message Filtering in Decentralized Virtual Environments, ACM Symposium on Interactive 3D Graphics April 26-28, 1999.
18. Bar-Yehuda, R. and D. Rawitz. Efficient Algorithms for Integer Programs with Two Variables per Constraint, 7th Annual European Symposium on Algorithms. Prague, Czech Republic, July 1999.
19. Becker A., Bar-Yehuda, R., and D. Geiger, Random Algorithms for the Weighted Feedback Vertex Set Problem Fifteenth Conference on Uncertainty in Artificial Intelligence July 30-August 1999, Shtockholm, Sweden
20. Bar-Noy A., Bar-Yehuda, R., Freund A., Naor S., and B. Schieber, A Unified Approach to Approximating Resource Allocation and Scheduling The Thirty Second Annual ACM Symposium on Theory of Computing (STOC), Portland Oregon, May 21-23, 2000.

21. Bar-Yehuda, R., D. Rawitz, On the Equivalence Between the Primal-Dual Schema and the Local-Ratio Technique, APPROX 2001 - 4th. International Workshop on Approximation Algorithms for Combinatorial Optimization Problems, Berkeley, California, USA, 18-20 August 2001. (Contained in (31))
22. Bar-Yehuda R., M. M. Halldorsson, J. Naor, H. Shachnai and I. Shapira, Scheduling Split Intervals, Thirteenth ACM-SIAM Symposium on Discrete Algorithms (SODA), January 6-8, 2002 San Francisco. (Contained in (33))
23. R. Bar-Yehuda, Even G., and S. Shahar, On Approximating A Geometric Prize-Collecting Traveling Salesman Problem With Time Windows, in ESA-2003, Lecture Notes in Computer Science 2832:55–66, Springer 2003. (Contained in (30))
24. R. Bar-Yehuda and D. Rawitz, Using Fractional Primal-Dual to Schedule Split Intervals with Demands, 13th Annual European Symposium on Algorithms, (ESA-2005), Lecture Notes in Computer Science 3669:714–725, Springer 2005. Palma de Mallorca, Spain, October 3-6, 2005. (Contained in Submitted (32))
25. R. Bar-Yehuda and J. Laserson, Exploiting Locality: Approximating Sorting Buffers, Proceedings of the 3rd International Workshop on Approximation and Online Algorithms (WAOA), 2005. Lecture Notes in Computer Science Springer. Mallorca, Spain, October 3-6, 2005 (Contained in Submitted (35))
26. R. Bar-Yehuda I. Feldman and D. Rawitz, Improved Approximation Algorithm for Convex Recoloring of Trees, Proceedings of the 3rd International Workshop on Approximation and Online Algorithms (WAOA), 2005. Lecture Notes in Computer Science Springer. Mallorca, Spain, October 3-6, 2005 13th Annual European Symposium on Algorithms, (Contained in Submitted (36))
27. R. Bar-Yehuda, M. Beder, Y. Cohen, and D. Rawitz. Resource allocation in bounded degree trees, ESA'06: Proceedings of the 14th conference on Annual European Symposium, Lecture Notes in Computer Science 4168:64-75, Springer 2006. (Contained in (37))
28. R. Bar-Yehuda, G. Flysher, J. Mestre, and D. Rawitz, Approximation of Partial Capacitated Vertex Cover. ESA 2007: 335-346 (Contained in (??))
29. D. Amzallag, R. Bar-Yehud, D. Raz, G. Scalosub. Cell Selection in 4G Cellular Networks. To appear in the Proceedings of the Annual IEEE 27th INFOCOM, Phoenix, Arizona, April 2008.