List of Publications

Reuven Bar-Yehuda

October 26, 2007

Publications

Theses

1. The Complexity of Finding k-Path-Free Dominating Set in Graphs, M.Sc. Thesis, Computer Science Department, Technion IIT - Israel, July 1980. Thesis advisor: S. Even.

2. Approximation Algorithms for Graph Cover Problems, Ph.D. Thesis, Computer Science Department, Technion IIT - Israel, February 1983. Thesis advisor: S. Even.

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. R. Bar-Yehuda and J. Laserson, Exploiting Locality: Approximating Sorting Buffers, *Journal of Discrete Algorithms*, Vol. 5, Issue 4, 729-738, 2007.

Accepted (or in press) Papers

35. Bar-Yehuda R. and I. Yavneh, A Factor-Two Approximation Algorithm for Two-Dimensional Phase-Unwrapping, accepted to *J. Graph Algorithms and Applications.*

36. R. Bar-Yehuda I. Feldman and D. Rawitz, Improved Approximation Algorithm for Convex Recoloring of Trees. accepted to *Theory of Computing Systems*

Submitted Papers

1. R. Zohar and R. Bar Yehuda The Maximum Weight Hierarchy Matching Problem, Submitted to *Journal of information Fusion*

2. R. Bar-Yehuda G. Flysher Julian Mestre and D. Rawitz, Approximation Algorithms for Partial Capacitated covering problems. Submitted to *SIAM Journal on Computing*

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.