

GUY KORTSARZ

PROFESSIONAL PREPARATION

Tel Aviv University	Mathematics and Computer Science	B.Sc, 1988
The Weizmann Institute	Computer Science	M.Sc, 1990
The Weizmann Institute	Computer Science	Ph.D, 1994

APPOINTMENTS

1 July 2008- **Professor**, Dept. of Computer Science, Rutgers University, Camden

2007-2008. **Visiting**. IBM Watson center, NY. (Sabbatical)

2001-2007 **Associate Professor**, Dept. of Computer Science, Rutgers University, Camden.

1996-2001. **Senior Lecturer**, Dept. of Computer Science, The Open University, Israel.

GRANTS

Previously supported by NSF award number 0728787.

For 104000 dollars.

Duration: 15/02/2008 to 31/01/2009.

Previously supported by NFS grant award number 0829959.

For 122000 dollars.

Duration: 2/1/2009 to 31/1/2012

Previously supported by NSF grant 1218620

Awarded with Rajiv Gandhi.

For 485000 dollars.

Duration: 9/1/2012 to 6/30/2017.

Additional funds for the same grant: 8400 dollars.

Awarded at 05/13/2013.

Additional fund for the same grant of: 4800 dollars.

Approved at 07/30/2013

Additional fund for the same grant of: 12050 dollars:

Awarded at 04/30/2014:

Previously supported by NSF grant number 1540547.

Awarded at 08/06/15

For 50000 dollars.

Duration: September 1, 2015

to August 31 2020.

Currently supported by NSF grant number 1910565.
Awarded with Rajiv Gandhi. For 330607 dollars.
Starting October 1 2019 until September 31 2022.

The total grant money allocated to Kortsarz (so far) is 1110565 dollars. Over a million and 100000 dollars.

INTERNS SUPPORTED BY NSF GRANT

May 2010 Spyridon Antonakopoulos from **Columbia university**

May 2013, Hossein Esfandiari from the **University of Maryland**

May 2014, Manish Purohit and Kanthi Sarpatwar from **The university of Maryland**

May 2015. Amey Bhangale from **Rutgers University New Brunswick.**

May 2016. Amey Bhangale from **Rutgers University New Brunswick.**

SERVICE FOR THE COMPUTER SCIENCE COMMUNITY

1) Previously an editor in Information Processing Letters Journal

2) Previous Committee membership.

RANDOM-APPROX, Princeton, August 2007

RANDOM-APPROX, Barcelona, August 2010

ESA. France, September 2013.

ESA 2021.

3) Previously a member of *Mathematical Reviews*
(part of The American Math society)

4) Participated In Two NSF panels.

One of Career Awards.

CONFERENCE PUBLICATIONS

1) M. Dinitz, A. Koranteng and G. Kortsarz.

Relative Survivable Network Design,

APPROX-RANDOM 2022, to appear.

2) M. Cygan, M. Halldórsson and G. Kortsarz,

A Tight Lower Bounds for Set Cover Approximation in Subexponential time.

WAOA, pages 159-173, 2020.

No journal version.

- 3) X. Guo, G. Kortsarz, B Laekhanukit, S. Li and D. Vaz J and Jiayi Xian.
Approximation Bounded Degree Steiner Network Design problems.
APPROX-RANDOM 39:1-39:21, 2020.
- 4) Guy Kortsarz and Zeev Nutov.
Approximating Minimum Degree Group Steiner Problems,
IWOCA, pages 245-354, 2020.
- 5) Zeev Nutov, Guy Kortsarz and Eli Shalom.
Approximating activation edge-cover and facility location problems.
MFCS, pages 20:1-20:14, 2019.
- 6) G. Calinescu, G. Kortsarz and Z.Nutov,
Improved approximation algorithms for minimum power covering problems,
WAOA pages 134-148, 2018.
- 7) M. M Halldorsson, G. Kortsarz, P. Mitra and T. Tonoyan.
Spanning Trees With Edge Conflicts and Wireless Connectivity.
ICALP, 158:1-158:15, 2018
- 8) P. Chalermsook, M. Cygan, G. Kortsarz, B. Laekhanukit, P. Manuarangsi and D. Nanongkai
and Luca Trevisan.
From Gap-ETH to FPT-Inapproximability: Clique, Dominating Set, and More.
FOCS pages 743-754, November 2017
- 9) E. Chlamtac, M. Dinitz, G. Kortsarz and B. Laekhanukit,
Approximating Spanners and Directed Steiner Forest: Upper and Lower Bounds.
SODA, pages 534-553, January 2017.
- 10) The Densest k -Subhypergraph Problem.
Eden Chlamtáč, Michael Dinitz, C. Konard, Guy Kortsarz, and G. Rabanca.
APPROX-RANDOM, pages 6:1-6:19. 2016
- 11) G. Kortsarz and Z. Nutov.
Integrality gap LP for the tree augmentation problem.
APPROX-RANDOM, 13:1-13:16, 2016.
- 12) A. Bhangale, R. Gandhi, M Hajiaghayi, R. Khandekar, G Kortsarz.
Bi-covering: Covering edges with two small subsets of vertices
ICALP pages 601-612, June 2016.
- 13) Hossein Esfandiari and Guy Kortsarz.
Low-Risk Mechanisms for the Kidney Exchange Game.
LATIN, pages 416-428, March, 2016.
- 14) Hossein Esfandiari and Guy Kortsarz.
Low-Risk Mechanisms for the Kidney Exchange Game.
Symposium on Algorithmic game theory, pages 303,304, 2015.

15) R. Gandhi, M. Halldórsson, C. Konrad and G. Kortsarz and H. Oh,
Approximation Broadcast aggregation problem.
ALGOSENSORS , pages 169-182, 2015.

Remark: This is an undergraduate research paper. Hoon Oh is a third year undergraduate student at Rutgers Camden.

16) Hajiaghayi, Kortsarz MacDavid, Purohit, and Sarpatwar.
Approximating the Connected Max Cut Problem.
ESA 2015, 693-704.

Remark: This is an undergraduate research paper. Robert MacDavid was an undergraduate student in Rutgers Camden when the paper was done.

17) G. Kortsarz and Z. Nutov.
Approximation for source location and the star SNDP problem.
WG 203–218, 2015

18) M. Dinitz, G. Kortsarz and Z. Nutov.
Improved Approximation Algorithm for Steiner k -Forest with Nearly Uniform Weights.
APPROX-RANDOM pages 115–127, 2014.

19) R. Chitnis, H. Esfandiari, M. Hajiaghayi, R. Khandekar, G Kortsarz, and S. Seddighin.
A Tight Algorithm for Strongly Connected Steiner Subgraph On Two Terminals With Demands.
IPEC pages 159-171, 2014.

20) R. Gandhi and G. Kortsarz, On edge expansion problems and the small set expansion conjecture. *WG* pages 189-200, 2014.

21) M. Hajiaghayi, R. Khandekar, G, Kortsarz, and Z. Nutov,
Fixed cost k -flow problems,
WAOA pages 49-60, 2013

22) R Chitnis, M. Hajiaghayi and G Kortsarz. Fixed Parameter and approximation algorithms: a new look.
IPEC pages 110-122, 2013.
No journal version.

23) M. Hajiaghayi, R. Khandekar, M.Khani and G. Kortsarz,
Approximation Algorithms for Movement Repairman.
APPROX-RANDOM, pages 218-232, 2013.

24) M. Dinitz and G. Kortsarz,
Matroid Secretary for Regular and Decomposable Matroids,
SODA 2013, pages 108-117, January 2013.

- 25) M. Cygan, G. Kortsarz and Z. Nutov,
Steiner Forest Orientation Problems,
ESA, pages 361-372, August 2012.
- 26) M. Dinitz G. Kortsarz and R. Raz.
Labelcover with large girth and the hardness
of basic spanners. *ICALP*, pages 290-301, July 2012.
- 27) R. Khandekar and G. Kortsarz and V. Mirrokni,
On the advantage of overlap in minimizing conductance.
LATIN, 495-505, April 2012.
- 28) R. Khandekar and G. Kortsarz and Zeev Nutov.
Approximating some network design problem with degree bounds.
APPROX-RANDOM, 289-301, August 2011.
- 29) M. Hajiaghayi and R. Khandekar and G. Kortsarz and V. Liaghat,
On a local protocol for Concurrent File transfers,
SPAA, pages 269-278, June 2011.
- 30) M. Hajiaghayi and R. Khandekar and G. Kortsarz and J. Mestre,
The checkpoint problem,
APPROX-RANDOM, 219-231, August, 2010.
- 31) M. Hajiaghayi, R. Khandekar and G. Kortsarz,
The Red-Blue Median Problem and its Generalization,
ESA, 314-325, 2010.
- 32) M. Hajiaghayi and R. Khandekar and G. Kortsarz and Z. Nutov,
Prize Collecting Steiner Network Problem and Extensions,
IPCO 71-84, 2010.
- 33) R. Khandekar and G. Kortsarz and Z. Nutov,
The fault tolerance Group Steiner problem,
FSTTCS, pages 263-274, 2009.
- 34) G. Kortsarz and Z. Nutov,
Approximating some network design problems with node costs,
APPROX-RANDOM, pages 231-343, 2009.
- 35) M. Feldman, G. Kortsarz and Z. Nutov,
Improved results for the directed version of the k Steiner forest problem,
SODA, 922-931, 2009.
- 36) R. Khandekar, G. Kortsarz, V. Mirrokni, M. Salavatipour,
Approximation and hardness results for Robust Network design with Exponential Scenarios,
ESA, 589-600, September 2008.

- 37) G. Kortsarz, M. Landberg and Z. Nutov.
Approximating Maximum Subgraphs Without Short Cycles,
APPROX-RANDOM, pages 118-131, August 2008.
- 38) M. Halldórsson, G. Kortsarz and M. Sviridenko.
Min Sum Edge Coloring in General Multigraphs via Configuration LP,
IPCO, pages 359-373, May 2008.
- 39) G. Kortsarz, V. Mirrokni, Z. Nutov and E. Tsanko,
Approximating min-power connectivity problems,
Latin American Theoretical Informatics Symposium (LATIN), pages 423-435, April 2008.
- 40) C. Chekuri, M. Hajiaghayi, G. Kortsarz and M. Salavatipour, Approximating non-uniform buy at bulk network design with node costs,
SODA, pages 1265-1274, 2007.
No Journal version (merged with the FOCS 2006 paper).
- 41) C. Chekuri, M. Hajiaghayi, G. Kortsarz and M. Salavatipour,
Polylogarithmic approximation for non-uniform multicommodity buy at bulk network design,
FOCS, pages 677-686, 2006.
- 42) M. Hajiaghayi, G. Kortsarz and M. Salavatipour,
Approximation k shallow-light trees and k -Steiner buy at bulk trees,
APPROX-RANDOM, pages 152-163, August 2006.
- 43) G. Kortsarz and Z. Nutov,
Tight bounds for connectivity augmentation problems,
ICALP, pages 443-452, July 2006.
- 44) M. Hajiaghayi, G. Kortsarz, V. Mirrokni and Z. Nutov,
Power optimization for connectivity problems,
IPCO, pages 349-361, May 2006.
- 45) M. Elkin and G. Kortsarz,
Improved broadcast schedule for radio networks,
SODA, pages 222-231, January, 2005.
- 46) G. Kortsarz, J. Radhakrishnan and S. Sivasubramanian,
Complete partitions of graphs,
SODA, pages 860-869, January 2005.
- 47) Y. Kortsars, G. Kortsarz and Z. Nutov,
Approximating directed multicuts,
WAOA, pages 61-67, 2004.
- 48) R. Gandhi, M. Halldórsson, G. Kortsarz and H. Shachnai,
Improved bounds for weighted completion sum of dependent jobs,
WAOA, pages 68-82, 2004.

- 49) S. Khuller, G. Kortsarz and K. R. Rohloff,
Approximating the minimal sensor selection for supervisory control,
WODES, pages 85-90, 2004.
- 50) M. Halldórsson, G. Kortsarz,
Multicoloring: problems and techniques,
MFCS, pages 25-41, 2004. **Invited Talk.**
- 51) M. Elkin and G. Kortsarz,
Polylog inapproximability for radio broadcast,
APPROX-RANDOM, pages 105–116, 2004.
- 52) R. Gandhi, M. Halldórsson,
G. Kortsarz and H. Shachnai.
Improved results for data migration and open-shop scheduling,
ICALP, pages 658-669, 2004.
- 53) J. Chuzhoy, S. Guha, E. Halperin, S. Khanna, G. Kortsarz, and S. Naor,
Tight $\log^* n$ lower bound for approximating directed metric k -center,
STOC, pages 21–27, 2004.
- 54) G. Kortsarz and Z. Nutov,
Improved approximation algorithms for the min-cost vertex k -connectivity problem via
critical sets,
STOC, pages 138–145, 2004.
- 55) L. Gaspero, J. Gärtner, G. Kortsarz, N. Musliu, A. Schaerf and W. Slany, A hybrid
network flow Tabu search heuristic for the minimum shift design problem, *Metaheuristics
International Conference 2003*.
No Journal Version.
- 56) G. Kortsarz and S. Shende,
Approximating the achromatic number problem on bipartite graphs,
ESA, pages 385–396, 2003.
- 57) L. Di Gaspero, J. Gärtner, G. Kortsarz, N. Musliu, A. Schaerf and W. Slany,
Theory and practice of shift scheduling,
ESA, pages 593–604, 2003.
- 58) M. Elkin and G. Kortsarz,
Approximating telephone multicast on directed graphs,
ICALP, pages 212–223, 2003.
- 59) R. Gandhi, E. Halperin, S. Khuller, G. Kortsarz and A. Srinivasan,
An improved approximation algorithm for vertex cover with hard capacities,
ICALP, pages 164–175, 2003.

- 60) E. Halperin, G. Kortsarz, R. Krauthgamer, A. Srinivasan and N. Wang, Integrality ratio for group Steiner trees and directed Steiner trees, *SODA*, pages 275–284, 2003.
- 61) M. Elkin and G. Kortsarz,
A sublogarithmic approximation algorithm for the undirected telephone broadcast problem: a path out of a jungle,
SODA, pages 76–85, 2003.
- 62) G. Kortsarz, R. Krauthgamer and J. Lee,
On the hardness of approximating vertex connectivity problems,
APPROX-RANDOM, pages 185–199, 2002.
- 63) M. Elkin and G. Kortsarz,
A Combinatorial logarithmic approximation algorithm for the directed telephone broadcast problem,
STOC, pages 438–447, 2002.
- 64) G. Even and G. Kortsarz,
An approximation algorithm for the group Steiner problem,
SODA, pages 49–58, 2002.
The journal version corrects this conference version.
- 65) G. Even, G. Kortsarz and W. Slany,
On network design: fixed charge flows and the covering Steiner problem,
SWAT, pages 318–329, 2002.
- 66) M. Halldórsson, G. Kortsarz and H. Shachnai,
Scheduling tasks on dedicated processors and interval graphs,
APPROX-RANDOM, pages 114–126, 2001.
- 67) G. Even, J. Feldman, G. Kortsarz and Z. Nutov,
A $3/2$ -approximation for augmenting a connected graph into a two-connected graph,
APPROX-RANDOM, pages 194–205, 2001
- 68) G. Kortsarz and R. Krauthgamer,
On the approximation of the achromatic number,
SODA, pages 309–318, 2001.
- 69) U. Feige, M. Halldórsson and G. Kortsarz,
Approximating the domatic number,
STOC, pages 134–143, 2000.
- 70) D. Handke and G. Kortsarz,
The Steiner tree-spanner problem and related tree-covering problems,
WG, 2000.
No Journal Version.

- 71) G. Kortsarz and Z. Nutov,
Approximating small vertex connectivity problems via Set-Covers,
APPROX-RANDOM, pages 194–205, 2000.
- 72) M. Halldórsson and G. Kortsarz,
Multicoloring planar graphs and partial k-trees,
APPROX-RANDOM, pages 73–84, 1999.
- 73) M. Halldórsson, G. Kortsarz, A. Proskurowski, R. Salman, H. Shachnai and J. A. Telle,
Sum multicoloring trees,
COCOON, pages 171–180, 1999.
- 74) A. Bar-Noy, M. Halldórsson, G. Kortsarz, R. Salman and H. Shachnai,
Minimum sum multicoloring of graphs,
ESA, pages 390–401, 1999.
- 75) G. Kortsarz.
On the hardness of approximating spanners,
APPROX-RANDOM, pages 135–146, 1998.
- 76) A. Bar-Noy and G. Kortsarz.
The minimum color-sum of bipartite graphs,
ICALP, pages 738–748, 1997.
- 77) G. Kortsarz and D. Peleg.
Approximating shallow-light trees,
SODA, pages 103–110, 1997.
- 78) J. Bar-Ilan, G. Kortsarz and D. Peleg,
On submodular cover problems,
Israeli Symposium on the Theory of Computing and System pages 110–118, 1996.
- 79) G. Kortsarz and D. Peleg.
Generating low-degree 2-spanners,
SODA, pages 556–563, 1994.
- 80) G. Kortsarz and D. Peleg,
On choosing a dense subgraph,
FOCS, pages 692–701, 1993.
- 82) G. Kortsarz and D. Peleg,
Generating sparse 2-spanners,
SWAT, pages 73–82, 1992.
- 83) G. Kortsarz and D. Peleg,
Approximation algorithms for minimum time broadcast,
Israeli Symposium on the Theory of Computing and System pages 67–78, 1992.

84) G. Kortsarz and D. Peleg,
Traffic light scheduling on the grid,
WDAG, pages 238–252, 1992.

INVITED PRESENTATIONS: A SAMPLE FROM 2000 FORWARD

- 1) G. Kortsarz. Approximating the Domatic Number, invited talk, Weekly seminar, Computer Science, Tel Aviv University, 2000.
- 2) G. Kortsarz, Approximating the Domatic Number problem, invited talk at the the computer Science weekly seminar, University of Pennsylvania, 2001.
- 3) G. Kortsarz, The achromatic number problem, invited talk, at Dagstuhl seminars, Germany. 2003.
- 4) G. Kortsarz, Rare approximation ratios, invited talk, at DIMACS, Theoretical Computer Science Seminar, 2006
- 5) G. Kortsarz, Approximating non-uniform multicommodity buy at bulk, invited talk at the Workshop on approximation algorithms, Montreal, Canada, 2006. Organized by Goemans and Cheriyan.
- 6) G. Kortsarz, Comparing min-cost and min-power connectivity problems. Invited talk at Conference on Operations Research, Euro 2006, Iceland, 2006
- 7) G. Kortsarz, Comparing min-cost and min-power connectivity problems, invited talk at INFORMS, Pittsburgh, 2006
- 8) G. Kortsarz. Rare approximation ratios. 2007, invited talk. at Bell Labs Computer Science weekly seminar.
- 9) G. Kortsarz, Approximating Buy at Bulk problems, invited talk, at the IBM Watson Watson Weekly computer Science Seminar, 2007.
- 10) G. Kortsarz, Approximating the p Directed Steiner Forest problem, invited talk at INFORMS, Washington D.C, 2008.
- 11) G. Kortsarz, Survey on approximation connectivity algorithms via survey of techniques, invited talk at Parameterized complexity and approximation algorithms. Seminar At Schloss Dagstuhl, 2009.
- 12) G. Kortsarz On the Achromatic number problem, invited talk at Drexel, Weekly Math Seminar, 2010.
- 13) G. Kortsarz, Tools for multicoloring with applications for bounded tree width graphs and planar graphs, invited talk at Dagstuhl seminars.
A seminar on Bidimensional Structures: Algorithms, Combinatorics and Logic. 2013.

14) G. Kortsarz, The interesting behavior of the source location problem, invited talk for Maryland CS weekly Seminar. 2014.

15) G. Kortsarz, Optimal time for exact and approximation algorithms, invited talk at "Satisfiability Lower Bounds and Tight Results for Parameterized and Exponential-Time Algorithms," Simons, institute of theory and computing, Berkeley University, November 2-6, 2015.

Organized by Daniel Marx.

16) Guy Kortsarz, A survey on approximating spanners. Invited talk at the *DIMACS Workshop on Algorithms for Data Center Networks*, June 5 - 7, 2017.

Organized by B. Schieber, H. Shachnai, and L. Zhang,

17) Guy Kortsarz. On David Peleg from the viewpoint of his first Ph. D. Student.

Invited talk in a workshop at PODC 2017. Organized by Prof Boaz Patt-Shamir and Pro Yuval Emek.

18) Improved approximation for minimum covering problem using Iterative randomized rounding.

Invited talk in: The 9th Workshop on Flexible Network Design
May 22-25, 2018

Organized by Mohammad Taghi Hajiaghayi and Samir Khuller.

19) A Survey On the Directed Steiner Forest.

Invited talk in John Hopkins weekly seminar.

2019

20) Group Steiner with degree bounds on trees and bounded tree width graphs. Invited talk in the International Symposium on Algorithms and Computation (ISAAC) 2020. **Remark:** Talk (and conference) was by Remote.

SHORT VISITS AND TALKS: A SMALL SAMPLE

1) G. Kortsarz. Augmenting graph connectivity from 1 to 2. Stanford university, Palo Alto 2003.

2) G. Kortsarz. Augmenting graph connectivity from 1 to 2. The university of Waterloo, Canada. 2004

3) G. Kortsarz. The directed Multicut problem. MIT, Boston 2005

4) G. Kortsarz, On the Directed p Steiner Forest problem. In the weekly Seminar in CS Maryland university, 2006.

5) G. Kortsarz, Rare approximation ratios. Bell Labs. 2006.

- 6) G. Kortsarz. Approximating min-power connectivity problems. Microsoft Research, Seattle, 2008.
- 7) G. Kortsarz. Augmenting connectivity from 1 to 2. Max Plack institute at Saarbrcken, Germany, 2009.
- 8)G. Kortsarz. A survey of connectivity problems via survey of techniques. Warwick University, England, 2011,
- 9)G. Kortsarz. A survey on approximating spanners. Liverpool University, England, 2014,
- 10) G. Kortsarz, What did I learn on cut expansion and density problems? Johns Hopkins university, 2014.
- 11) G. Kortsarz, Visited Marek Cygan at Wydział Matematyki, Informatyki Mechaniki
- 12) G. Kortsarz, Approximating activation edge-cover and facility location problems. Max Planck institute, at Saarbrucken Germany, 2019.
- 13) G. Kortsarz. Visited Shi Li in the University of Buffalo, in the USA. 2021.

CHAPTERS IN BOOKS

- 1) G. Kortsarz and Z. Nutov, Approximating minimum-cost connectivity problems, In: Editor Teofilo F. Gonzales, Handbook on Approximation Algorithms and Metaheuristics, Published by Chapman and Hall, CRC, Taylor and Francis Group, Book Chapter, 58 (30 pages) 2007
- 2) G. Kortsarz, Fixed parameter approximation and hardness. Encyclopedia of Algorithms, Springer 2015, ISBN 978-3-642-27848-8
- 3) Magnus Halldorsson and Guy Kortsarz. Chromatic sums, multicoloring and scheduling dependent jobs. A book chapter for the Handbook on Approximation Algorithms and Metaheuristics, Published by Chapman and Hall, CRC, Taylor and Francis Group.

JOURNAL PUBLICATIONS

- 1) Zeev Nutov, Guy Kortsarz and Eli Shalom
Approximating activation edge-cover and facility location problems
Theoretical Computer Science. To appear.
- 2) Guy Kortsarz and Zeev Nutov. Bounded-Degree Group Steiner problems, Discrete Applied Math, 309: 229-239 (2022)
- 3) X. Guo, G. Kortsarz, B Laekhanukit, S. Li, D. Vaz and J. Xian
Approximation Bounded Degree Steiner Tree and Bounded Degree Group Steiner tree. Algorithmica, 84(5): 1252-1278 (2022)

- 4) M. M Halldorsson, G. Kortsarz, P. Mitra and T. Tonoyan. Spanning Trees With Edge Conflicts and Wireless Connectivity. 2020.
Algorithmica 83(11): 3469-3490, 2021
- 5) P. Chalermsook, M. Cygan, G. Kortsarz, B. Laekhanukit, P. Manuarangsi and D. Nanongkai and Luca Trevisan. From Gap-ETH to FPT-Inapproximability: Clique, Dominating Set, and More.
SICOMP, 49(4): 772-810 (2020)
- 6) E. Chlamtac, M. Dinitz, G. Kortsarz and B. Laekhanukit, Approximating Spanners and Directed Steiner Forest: Upper and Lower Bounds.
TALG, 16(3): 33:1-33:31, 2020.
- 7) Hajiaghayi, Kortsarz MacDavid, Purohit, and Sarpatwar. Approximating the Connected Max Cut Problem.
Theoretical Computer Science, Volume 814(24):74-85, 2020.
- 8) R. Gandhi, M. Halldorsson, C Konrad, G. Kortsarz and O. Hoon.
Radio Aggregation Scheduling.
Theoretical Computer Science, 840: 143-153 (2020)
Special issue of papers from Algosensors 2015 and 2016.
- 9) Gruia Calinescu, Guy Kortsarz and Zeev Nutov
Improved approximation algorithms for minimum power covering problems
Theoretical Computer Science, 20:1-20:14, 2019
- 10) The Densest k -Subhypergraph Problem.
Eden Chlamtác, Michael Dinitz, C Konard, Guy Kortsarz and George Rabanca.
SIAM Journal on Discrete Math, 32(2): 1458-1477, 2018
- 11) Hossein Esfandiari and G. Kortsarz. Risk free Kidney exchange, *Discrete Applied math*, volume 243, pages 46-53, 2018.
- 12) G. Kortsarz and Z. Nutov. Integrality gap LP for the tree augmentation problem, *Discrete Applied Math*. Volume 239, April 2018, Pages 94-105.
- 13) The tree with maximum profit on the leaves problem and the connected max-cut problem.
R. Gandhi, M .Hajiaghayi, G. Kortsarz M Purohit, and K. Sarpatwar, *IPL*, 129: 31-34, January 2018.
No Conference version.
- 14) A. Bhangale, R. Gandhi, M Hajiaghayi, R. Khandekar, G. Kortsarz. Bic-covering: Covering edges with two small subsets of vertices. *SIAM Journal of Discrete Math*, 31(4): 2626-2646, 2017
- 15) M. Dinitz, G. Kortsarz and Z. Nutov. Approximating the Steiner k -forest problem, with nearly uniform capacity, *Transaction on Algorithms*, 13(3): 40:1-40:16, 2017.

- 16) G. Kortsarz and Z. Nutov. Approximation source location problems and the star SNDP problem. *Theoretical Computer Science*, 77(4):1216-1239, 2017
- 17) R. Chitnis, H. Esfandiari, M. Hajiaghayi, R. Khandekar, G. Kortsarz, and Seddighin A Tight Algorithm for Strongly Connected Steiner Subgraph On Two Terminals With Demands. *Algorithmica*, 77(4): 1216-1239, 2017
- 18) M. Hajiaghayi, R. Khandekar, G. Kortsarz, and Z. Nutov, Fixed cost k -flow problems, *Theoretical computer science* 58(1): 4-18, 2016. Special Issue of papers selected from WAOA 2013.
- 19) G. Kortsarz and Z. Nutov. A simplified algorithm for the tree augmentation problem. *Transaction on algorithms (TALG)* 12(2):25, 2016
- 20) M. Dinitz G. Kortsarz and R. Raz. Labelcover with large girth and the hardness of basic spanners. *TALG*, 12(2):23, 2016
- 21) M. Hajiaghayi, R. Khandekar, M. R. Khani and G. Kortsarz, Approximation Algorithms for Movement Repairman. *TALG*, 12(4): 54, 2016.
- 22) R. Gandhi and G. Kortsarz. On edge expansion problems and the small set expansion conjecture. *Discrete Applied Mathematics (DAM)* 194: 93-101, 2015
- 23) R. Khandekar and G. Kortsarz and V. Mirrokni, On the advantage of overlap in minimizing conductance. *Algorithmica* 69(4):844-863, 2014.
- 24) M. Hajiaghayi and R. Khandekar and G. Kortsarz and V. Liaghat, On a local protocol for Concurrent File transfers. *Theory Comput. Syst.* Special issue of papers selected from SPAA (2011). 55(3): 613-636, 2014
- 25) M. Dinitz and G. Kortsarz, Matroid Secretary for Regular and Decomposable Matroids. *SICOMP* 43(5): 1807-1830, 2014.
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WORKING PAPERS

1) Zeev Nutov, Guy Kortsarz and Elad Shoham. Approximating Min Coverage and Min Quota, θ -bounded, Facility Location problems. To be submitted to IPL.

2) M. Dinitz, A. Koranteng and G. Kortsarz, Relative Survivable Network Design Relative Survivable Network Design. To be submitted to a journal, 2022.

UNPUBLISHED MANUSCRIPTS

M. Hajiaghayi, R. Khandekar and G. Kortsarz. FPT-hardness for clique and set cover with super exponential time in k .

Remark: This is the first paper to give super exponential time, super constant hardness, for Set Cover and Clique under the ETH.