Ronitt Rubinfeld

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MIT Computer Science and Artificial Intelligence Laboratory (CSAIL)
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Education

University of California, Berkeley Berkeley, California.
Ph.D. in Computer Science, supervised by Prof. Manuel Blum, August 1990.
Thesis title: "A Mathematical Theory of Self-Checking, Self-Testing and Self-Correcting Programs".

University of Michigan Ann Arbor, Michigan.
B.S.E. in Computer Engineering, May 1985.

Scientific Interests Randomized algorithms, sublinear time algorithms, property testing, program checking, learning theory.

Research and Professional Experience

MIT Cambridge, MA, 2004-present.
Professor.

Tel Aviv University Tel Aviv, Israel, 2008-present.
Professor.

Radcliffe Institute of Advanced Study Cambridge, MA, Spring 2004.
Fellow.

NECI Princeton, NJ, 1999-2003.
Senior Research Scientist.

Cornell University Ithaca, New York, 1998-2000.
Associate Professor.

IBM Almaden Research San Jose, California, 1998-1999.
Visiting Faculty.

Cornell University Ithaca, New York, 1992-1998.
Assistant Professor.

MIT Cambridge, Massachussetts, 1995-1996.
Visiting Professor.

Hebrew University Jerusalem, Israel, 1991-1992.
Visiting Research Scientist.

Princeton University Princeton, New Jersey, 1990-1991.
Visiting Research Fellow at DIMACS.

Honors and Awards

MIT Capers and Marion McDonald Award for Excellence in Mentoring and Advising, 2018.

Fellow of the ACM, 2014.

Cornell College of Engineering Teaching Award, 1996.

Alfred P. Sloan Research Fellow, 1996.

NSF Career Award, 1996.

Cornell Association for Computer Science Undergraduates Faculty of the Year, 1995.

ONR Young Investigator Award 1993.

Invited Conference Talks

Symposium on Principles of Distributed Computing (PODC), Keynote Speaker, Montreal, August 2019 (upcoming).

International Conference on Randomization and Computation (RANDOM), Invited Speaker, Princeton University, August 2018.

International Colloquium on Automata, Languages, and Programming (ICALP), Invited speaker, July 2017.

International Computer Science Symposium in Russia (CSR), Invited speaker, June 8-12, 2017.

Conference on Learning Theory (COLT), Invited speaker, June 2016.

India Theory Day, Microsoft and the India Institute of Science, Keynote speaker, 2015.

Latin American Theoretical INformatics Symposium (LATIN), Keynote speaker, 2014.

Information Theory and Applications (ITA), Plenary speaker, 2013.

International Conference on Random Structures and Algorithms (RS&A), Plenary speaker, 2007.

International Congress of Mathematicians (ICM), Section speaker, 2006.

Recent Invited Talks

Workshop on Algorithms for Learning and Economics (WALE), Keynote Speaker, Rhodes, Greece, July 2019 (upcoming).

ICERM workshop on "Optimization methods in computer vision and image processing", Brown University, April 29-May 3, 2019 (upcoming).

Princeton University Department of Mathematics PACM Colloquium, April 2019.

University of California-Irvine Computer Science Distinguished Lecturer Series, January 2019.

Tel Aviv University PCPfest Workshop, December 2018.

Harvard School of Engineering and Applied Sciences CS Colloquium, November 2018.

Simons Institute, Sublinear Algorithms and Nearest-Neighbor Search Workshop, November 2018.

University of Texas-Austin Computer Science Theory Seminar, October 2018.

Yale Institute for Network Science Lecture, February 2018.

University of Southern California Distinguished Lecture Series, January 2018.

Simons Institute, Real-Time Decision Making Boot Camp, Invited lecture, January 2018.

Distinguished Lecture Series, UMass Amherst, November 2017.

Bigg's Lecture, Colloquia in Combinatorics, London, May 2017.

Workshop on "Frontiers in Distribution Testing", Invited speaker, FOCS 2017.

Workshop on "Algorithmic Challenges in Data Science", EPFL, Invited speaker, June 14-16.

Yandex, Moscow, Russia, Public Talk, June 6, 2017.

Randomness, Complexity and Cryptography: the First Sixty Years of Oded Goldreich Conference, Invited speaker, April, 2017.

Donald B. Gillies Memorial Lecture in Computer Science, University of Illinois, November 2016.

Simons Institute Workshop on Real Time Decision Making, June 2016.

Journes d'Informatique Fondamentale de Paris Diderot, Paris, France, Invited speaker, April 22-26, 2013.

Patrick C. Fischer Professorship Symposium, University of Michigan, 2012.

Professional Activities

Organizer, Workshop on Local Algorithms (WOLA), July 2019, June 2018, October 2016.

Sloan Research Fellowship Selection Committee, 2017-2023.

CRA's Computing Community Consortium (CCC) Council member 2018-2021.

Knuth Prize Committee, 2011-2013, 2019-2021.

Chair of Foundations of Computer Science (FOCS) 60th Birthday Celebration (planning for Fall 2019).

Steering committee for International Conference on Randomization and Computation (RANDOM) conference.

Local arrangements chair for International Workshop on Randomization and Computation and International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (RANDOM/APPROX) conferences Fall 2019, Fall 2012.

Steering committee for International Joint Research Unit of CNRS, University of Bordeaux, Ecole Normale Superieure Paris-Saclay, Chennai Mathematical Institute and the Institute of Mathematical Sciences, ReLaX (Research Lab in Computer Science) 2017-present.

Organizing Committee for semester on Sublinear Algorithms, MIT MIFODS, Spring 2018.

Highlights of Algorithms Steering Committee (HALG), 2014-2017.

UT Austin Computer Science Department External Review Committee, 2016.

Organizing Committee for *Refining the Concept of Scientific Interface When Working with Big Data Workshop*, Committee on Applied and Theoretical Statistics, National Academy of Sciences, June 2016.

NSF CISE Advisory Committee, 2012-2016.

Organizer, *Symposium on Learning, Algorithms and Complexity (LAC15)*, Bangalore, India, January 2015.

Organizer, *Bertinoro Workshop on Sublinear Algorithms*, 2011.

Organizer, *Dagstuhl workshop on Sublinear Algorithms*, 2005, 2008.

Organizing committee, chair, *DIMACS Special Focus on Network Security*, 2003-2007.

Organizer, *DIMACS workshop on Sublinear Algorithms*, 2000.

Editorial board,

- *Siam J. Mathematics of Data Science*, Associate Editor 2018-present.
- *ACM Transactions on Computation Theory*, 2007-present.
- *Algorithmica*, 2005-2017.
- *Theory of Computing Systems Journal*, 2001-2017.
- *CACM*, Research Highlights Board, 2008-2012.
- *Information and Computation*, 2005-2012.
- Guest Coeditor for *J. of Computer Systems Science*, special issue on *Symposium on Theory of Computing* 1996.

Program committee member,

- *Innovations in Theoretical Computer Science (ITCS)* 2013, 2018.
- *Symposium on Theory of Computing (STOC)* 1996, 2008, 2014, 2015 (chair).
- *Fifth Workshop on Massive Data Algorithmics (MASSIVE)*, 2012, 2013.
- *Randomization and Computation (RANDOM)* 2001, 2005, 2008 (chair).
- *ACM-SIAM Symposium on Discrete Algorithms (SODA)* 2006.
- *Computational Learning Theory (COLT)* 1998, 2005.
- *IEEE Computational Complexity (CCC)* 1999, 2005.
- *IEEE Foundations of Computer Science (FOCS)* 1997, 2002.
- *International Colloquium on Automata, Languages, and Programming (ICALP)* 2000.
- *Israel Symposium on the Theory of Computing and Systems (ISTCS)* 1997.

MIT Activities (recent)

CSAIL Postdoc Coordinator (2018-present)

EECS Postdoc6 Coordinator (2018-present).

EECS Faculty Search Committee (2018-present).

EECS Faculty Awards Committee (2016-present).

EECS Admissions Committee (TOC head 2017, member 2011-present).

EECS Junior Faculty Mentoring Coordinator (2012-present).

CSAIL Cabinet (2012-present).

IDSS-Statistics Faculty Search Committee, 2018.

Co-PI on MIFODS (MIT Institute for Foundations of Data Science) at MIT. In charge of semester on Sublinear Algorithms), 2018.

Workshop Organizer (Chair) for Sublinear Algorithms held at MIT as part of MIFODS, June 2018.

EECS ECC committee (Education Curriculum Committee) (2016-2018).

EECS Department Head Search committee, Fall 2017.

Faculty Mentor for Vinod Vaikuntanathan, Scott Aaronson and Dana Moshkovitz.

Graduate Students Supervised

Funda Ergün (graduated 1997, Cornell University). Currently at Indiana University.

S. Ravi Kumar (graduated 1997, Cornell University). Currently at Google.

Tugkan Batu (graduated 2001, Cornell University). Currently at London School of Economics.

Punyashloka Biswal (graduated MEng, 2007, MIT). Currently at ASAPP, Inc.

Kevin Matulef (graduated 2009, MIT). Currently at Sandia National Labs.

Krzysztof Onak (graduated 2010, MIT). Currently at IBM Research Yorktown.

Arnab Bhattacharyya (graduated 2011, MIT). Currently at National University of Singapore.

Shai Vardi (graduated M.Sc., 2011, Tel-Aviv University). Currently at Caltech.

Michal Rosen (graduated M. Sc., 2011, Tel-Aviv University). Coadvised with Prof. Dana Ron. Currently at IBM Research, Israel.

Ning Xie (graduated 2012, MIT). Currently at Florida International University.

Reut Levi (graduated 2014, Tel-Aviv University). Coadvised with Prof. Dana Ron. Currently at Weizmann Institute of Science.

Badih Ghazi (graduated 2018, MIT). Coadvised with Prof. Madhu Sudan. Currently at Google.

Themis Gouleakis (graduated 2018, MIT). Currently at University of Southern California.

Anak Yodpinyanee (graduated 2018, MIT).

Maryam Aliakbarpour (current Ph.D. student), MIT.

Pritish Kamath (current Ph.D student), MIT. Coadvised with Prof. Madhu Sudan.

John Peebles (current Ph.D student), MIT. Coadvised with Prof. Jon Kelner.

Amartya Shankha Biswas (current Ph.D. student), MIT.

Journal Publications

- Clément L. Canonne, Themis Gouleakis, Ronitt Rubinfeld, "Sampling Correctors," *SIAM Journal on Computing*, 47(4):1373-1423, 2018.

- Maryam Aliakbarpour, Amartya Shankha Biswas, Themis Gouleakis, John Peebles, Ronitt Rubinfeld, Anak Yodpinyanee, "Sublinear-Time Algorithms for Counting Star Subgraphs via Edge Sampling," *Algorithmica*, 80(2):668-697, 2018.

- Clément L. Canonne, Ilias Diakonikolas, Themis Gouleakis, Ronitt Rubinfeld, "Testing Shape Restrictions of Discrete Distributions," *Theory Comput. Syst.*, 62(1):4-62, 2018.

- Sajjadur Rahman, Maryam Aliakbarpour, Hidy Kong, Eric Blais, Karrie Karahalios, Aditya G. Parameswaran, Ronitt Rubinfeld, "I've Seen Enough: Incrementally Improving Visualizations to Support Rapid Decision Making," PVLDB 10(11): 1262-1273, 2017.

- Reut Levi, Ronitt Rubinfeld, Anak Yodpinyanee, "Local Computation Algorithms for Graphs of Non-constant Degrees," Algorithmica 77(4):971-994, 2017.

- Reut Levi, Guy Moshkovitz, Dana Ron, Ronitt Rubinfeld, Asaf Shapira, "Constructing near spanning trees with few local inspections," *Random Structures and Algorithms*, 50(2):183-200, April 2017.

- Sheela Devadas, Ronitt Rubinfeld, "A Self-Tester for Linear Functions over the Integers with an Elementary Proof of Correctness", *Theory of Computing Systems*, 59(1):99-111, 2016. Also, CoRR abs/1412.5484, 2014.

- Albert Kim, Eric Blais, Aditya Parameswaran, Piotr Indyk, Sam Madden, Ronitt Rubinfeld, "Rapid Sampling for Visualizations with Ordering Guarantees", *Proceedings of the VLDB Endowment: 41st International Conference on Very Large Data Bases, Kohala Coast, Hawaii, August 31-September 4, 2015*, 8(5):521-532, 2015. Also, CoRR abs/1412.3040, 2014.

- Reut Levi, Dana Ron, Ronitt Rubinfeld, "Testing Similar Means", *SIAM J. Discrete Math.*, 28(4):1699-1724, 2014. Earlier versions in Artur Czumaj, Kurt Mehlhorn, Andrew M. Pitts, Roger Wattenhofer, editors, *Automata, Languages, and Programming - 39th International Colloquium (ICALP 2012), Warwick, UK, July 9-13, 2012, Part I*, volume 7391 of *Lecture Notes in Computer Science*, pages 629-640, Springer, 2012. Also, Electronic Colloquium on Computational Complexity (ECCC) TR12-055, May 2012.

- Ronitt Rubinfeld, Ning Xie, "Robust Characterizations of k-wise Independence over Product Spaces and Related Testing Results", *Random Structures and Algorithms*, 43(3):265-312, 2013. Published online in May 2012.

- Tugkan Batu, Lance Fortnow, Ronitt Rubinfeld, Warren D. Smith, Patrick White, "Testing Closeness of Discrete Distributions", *Journal of the ACM*, 60(1):4, 2013. Also, CoRR abs/1009.5397v2, September 2010.

- Reut Levi, Dana Ron, Ronitt Rubinfeld, "Testing Properties of Collections of Distributions", *Theory of Computing*, 9:295-347, 2013. Earlier version in *Innovations in Computer Science (ICS 2011)*, Beijing, China, pages 179-194, January 2011. Also, Electronic Colloquium on Computational Complexity (ECCC) TR10-157 (Revision), April 2011.

6

- Sofya Raskhodnikova, Dana Ron, Ronitt Rubinfeld, Adam Smith, "Sublinear Algorithms for Approximating String Compressibility", *Algorithmica*, 65(3):685-709, 2013. Earlier version in *Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques (APPROX-RANDOM 2007), Princeton, NJ, August 20-22, 2007*, volume 4627 of *Lecture Notes in Computer Science*, pp. 609-623, Springer, August 2007. Also, CoRR, Abs/0706.1084, June 2007.

- Ronitt Rubinfeld, "Taming big probability distributions", *ACM Crossroads*, 19(1):24-28, 2012.

- Dana Ron, Ronitt Rubinfeld, Muli Safra, Alex Samorodnitsky, Omri Weinstein, "Approximating the Influence of Monotone Boolean Functions in $O(\sqrt{n})$Query Complexity", *ACM Transactions on Computation Theory*, 4(4):11, 2012. Earlier version in L.A. Goldberg, K. Jansen, R. Ravi, J. D. P. Rolim, editors, *Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques - 14th International Workshop, APPROX 2011, and 15th International Workshop, RANDOM 2011, Princeton, NJ, USA, August 17-19, 2011*, volume 6845 of *Lecture Notes in Computer Science*, pages 664-675, 2011. Springer. Also, CoRR abs/1101.5345v1, January 2011.

- Ronitt Rubinfeld, Asaf Shapira, "Sublinear Time Algorithms", *SIAM Journal of Discrete Mathematics*, 25(4):1562-1588, 2011. Also, Electronic Colloquium on Computational Complexity (ECCC) TR11-013, February 2011.

- Khan Do Ba, H.L. Nguyen, H.N. Nguyen,Ronitt Rubinfeld, "Sublinear Time Algorithms for Earth Mover's Distance", *Theory of Computing Systems*, 48(2): 428-442, 2011. Also, CoRR abs/0904.0292v1, April 2009.

- Elena Grigorescu, Kyomin Jung, Ronitt Rubinfeld, "A local decision test for sparse polynomials", *Information Processing Letters*, 110(20):898-901, 2010.

- Kevin Matulef, Ryan O'Donnell, Ronitt Rubinfeld, Rocco A. Servedio, "Testing Halfspaces", *SIAM Journal on Computing*, 39(5):2004-2047, 2010. Earlier version in *Proceedings of the 20th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2009)*, pages 256-264, New York, NY, January 4-6, 2009 and Electronic Colloquium on Computational Complexity (ECCC) TR07-128, December 2007.

- Ronitt Rubinfeld, Rocco Servedio, "Testing Monotone High-dimensional Distributions", *Random Structures and Algorithms*, 34(1):24-44, 2009. Earlier version in *37th ACM Symposium on Theory of Computing (STOC 2005)*, Baltimore, MD, pages 147-156, May 2005.

- Michael Ben-Or, Don Coppersmith, Michael Luby, Ronitt Rubinfeld, "Non-Abelian Homomorphism Testing, and Distributions Close to their Self-Convolutions", *Random Structures and Algorithms*, 32(1):49-70, 2008. Earlier verision in *8th International Workshop on Randomization and Computation (RANDOM 2004), Cambridge, MA, August 2004*, volume 3122 of *Lecture Notes in Computer Science* pp. 273-285, 2004. Springer. Also, Electronic Colloquium on Computational Complexity (ECCC) TR04-052, 2004.

- Michal Parnas, Dana Ron, Ronitt Rubinfeld, "Tolerant Property Testing and Distance Approximation", *Journal of Computer and System Sciences*, 72(6):1012-1042, 2006. Also, Electronic Colloquium on Computational Complexity (ECCC) TR04-010, 2004.

- Tugkan Batu, Sanjoy Dasgupta, S. Ravi Kumar, Ronitt Rubinfeld, "The Complexity of Approximating the Entropy", *SIAM Journal on Computing*, 35(1):132-150, 2005. Preliminary version in *34th Annual ACM Symposium on Theory of Computing (STOC 2002)*, Montreal, Canada, pp. 678-687, May 2002 and in joint session with *Proceedings of the 17th IEEE Annual Conference on Computational Complexity*, Montreal, Quebec, Canada, May 2002.

- Tugkan Batu, Ronitt Rubinfeld, Patrick White, "Fast Approximate PCPs for Multidimensional Bin-packing Problems", *Information and Computation*, 196(1):42-56, 2005. Preliminary version in D. Hochbaum, K. Jansen, J.P.D. Rolim, and A. Sinclair editors, *Third International Workshop on Randomization and Approximation Techniques in Computer Science - APPROX-RANDOM 1999, Berkeley, CA, August 1999)*, volume 1671 of *Lecture Notes in Computer Science*, 1999. Springer.

- Artur Czumaj, Funda Ergün, Lance Fortnow, Avner Magen, Ilan Newman, Ronitt Rubinfeld, Christian Sohler, "Approximating the Weight of the Euclidean Minimum Spanning Tree in Sublinear Time", *SIAM Journal on Computing*, 35(1):91-109, 2005. Preliminary version in *14th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2003)*, Baltimore, MD, pp. 813-822, January 2003. (Title: Sublinear-time approximation of Euclidean minimum spanning tree.)

- Bernard Chazelle, Ronitt Rubinfeld, Luca Trevisan, "Approximating the minimum spanning tree weight in sublinear time", *SIAM Journal on Computing*, 34(6):1370-1379, 2005. Prelimary version in *Automata, Languages, and Programming: 28th International Colloquium (ICALP 2001), Crete, Greece, July 2001*, volume 2076 of *Lecture Notes in Computer Science*, pp. 190-200, 2001. Springer.

- Michal Parnas, Dana Ron, Ronitt Rubinfeld, " On Testing Convexity and Submodularity", *SIAM Journal on Computing*, 32(5):1158-1184, 2003. Preliminary version in *Randomization and Approximation Techniques, 6th International Workshop (RANDOM 2002), Cambridge, MA, September 2002*, volume 2483 of *Lecture Notes in Computer Science*, pp. 11-25, 2002. Springer.

- Jon Kleinberg, Ronitt Rubinfeld, "Short Paths in Expander Graphs", Accepted to Combinatorica. Preliminary abstract in *37th IEEE Conference on Foundations of Computer Science (FOCS 2006)*, Berkeley, CA, pp. 86-95, October 1996.

- Michal Parnas, Dana Ron, Ronitt Rubinfeld, "Testing Membership in Parenthesis Languages", *Random Structures and Algorithms*, 22(1):98-138, 2003. Preliminary abstract in *Fifth International Workshop on Randomization and Approximation Techniques in Computer Science (RANDOM 2001), Berkeley, CA, August 2001*, volume 2129 of *Lecture Notes in Computer Science*, pp. 261-272, 2001. Springer (titled "Testing Parenthesis Languages").

- Funda Ergün, S. Ravi Kumar, Ronitt Rubinfeld, "Fast Approximate Probabilistically Checkable Proofs", *Information and Computation* 189(2):135-159, 2004. Preliminary abstract in *31st ACM Symposium on Theory of Computing (STOC 1999)*, Atlanta, GA, pages 41-50, May 1999 (titled "Fast Approximate PCPs").

- Ronald Fagin, Anna Karlin, Jon Kleinberg, Prabhakar Raghavan, Sridhar Rajagopalan, Ronitt Rubinfeld, Madhu Sudan, Andrew Tomkins, "Random Walks with 'Back Buttons"',

Annals of Applied Probability, 11(3):810-862, 2001. Preliminary abstract in *32nd ACM Symposium on Theory of Computing (STOC 2000)*, Portland, Oregon, pp. 484-493, May 2000.

- Funda Ergün, S. Ravi Kumar, Ronitt Rubinfeld, "Checking Approximate Computations of Polynomials and Functional Equations", *SIAM Journal on Computing*, 31(2):550-576. Preliminary abstract in *37th IEEE Conference on Foundations of Computer Science (FOCS 1996)*, Burlington, Vermont, pp. 592-601, October 1996 (titled "Approximate Checking of Polynomials and Functional Equations (Extended Abstract))".

- Oded Goldreich, Ronitt Rubinfeld, Madhu Sudan, "Learning Polynomials with Queries: the Highly Noisy Case", *SIAM Journal on Discrete Mathematics*, 13(4):535–570, November 2000. Preliminary abstract in *36th IEEE Conference on Foundations of Computer Science (FOCS 1995)*, Milwaukee, Wisconsin, pp. 294-303, October 1995. Also, Electronic Colloquium on Computational Complexity (ECCC) TR98-060, October 1998.

- Funda Ergün, Sampath Kannan, S. Ravi Kumar, Ronitt Rubinfeld, Mahesh Vishwanathan, "Spot Checkers", *Journal of Computer and System Sciences*, 60(3):717-751, June, 2000. (Special issue on STOC 1998). Preliminary abstract in *30th ACM Symposium on Theory of Computing (STOC 1998)*, Dallas, Texas, pp. 259-268, May 1998.

- Ronitt Rubinfeld, "On the Robustness of Functional Equations", *SIAM Journal on Computing*, 28(6):1972-1997, 1999. Preliminary abstract in *35th IEEE Conference on Foundations of Computer Science (FOCS 1994)*, Santa Fe, New Mexico, pp. 288-299, October 1994.

- Sigal Ar, Richard Lipton, Ronitt Rubinfeld, Madhu Sudan, "Reconstructing Algebraic Functions from Mixed Data", *SIAM Journal on Computing*, 28(2):487-510, 1998. Preliminary abstract appears in *33rd IEEE Conference on Foundations of Computer Science (FOCS 1992)*, Pittsburgh, PA, pp. 503-512, October 1992.

- Yoav Freund, Michael Kearns, Dan Ron, Ronitt Rubinfeld, Rob Schapire, Linda Sellie, "Efficient Learning of Typical Finite Automata from Random Walks", *Information and Computation* 138(1):23-48, 1997. Preliminary abstract appears in *25th ACM Symposium on Theory of Computing (STOC 1993)*, pp. 315-324, 1993.

- Dana Ron, Ronitt Rubinfeld, "Exactly Learning Automata with Small Cover Time", *Machine Learning* 27, 69-96, 1997. (Special issue on COLT '95). Preliminary abstract in *8th Annual ACM Workshop on Computational Learning Theory (COLT 1995)*, Santa Cruz, CA, pp. 427-436, 1995.

- Ronitt Rubinfeld, Madhu Sudan, "Robust Characterizations of Polynomials with Applications to Program Testing", *SIAM Journal on Computing*, 25(2):252-271, April 1996. Also, Technical Report TR-93-1387, Cornell University, Department of Computer Science, Ithaca, NY, September 1993.

- Ronitt Rubinfeld, "Designing Checkers for Programs that Run in Parallel", *Algorithmica*, 15(4):287-301, 1996. Also, ICSI Technical Report TR-90-040, August 1990.

- Dana Ron, Ronitt Rubinfeld, "Learning Fallible Deterministic Finite Automata", *Machine Learning*, 18, pp. 149-185, 1995. (Special issue on COLT '93). Preliminary abstract appears

in *6th Annual ACM Workshop on Computational Learning Theory (COLT 1993)*, Santa Cruz, CA, pp. 218-227, July 1993 (titled "Learning Fallible Finite State Automata").

- Manuel Blum, Michael Luby, Ronitt Rubinfeld, "Self-Testing/Correcting with Applications to Numerical Problems", In *Journal of Computer System Sciences*, 47(3):549-595, December 1993. (Special issue on STOC 1990). Also, ICSI Technical Report TR-91-062, November 1991 (Revised Version). Preliminary abstract appears in *22th ACM Symposium on Theory of Computing (STOC 1990)*, Baltimore, MD, pp. 73-83, May 1990.

- Ronitt Rubinfeld, "Batch Checking with Applications to Linear Functions", *Information Processing Letters* 42(2):77-80, May 1992.

- Sandy Irani, Moni Naor, Ronitt Rubinfeld, "On the Time and Space Complexity of Computation Using Write-Once Memory, Or Is Pen Really Much Worse Than Pencil?", *Mathematical Systems Theory*, 25, pp. 141-159, 1992. Also, Technical Report CSD-88-434, University of California-Berkeley, June 1988

- Sandy Irani, Ronitt Rubinfeld, "A Competitive 2-Server Algorithm", *Information Processing Letters*, 39(2):85-91, July 1991.

- Ronitt Rubinfeld, "The Cover Time of a Regular Expander is $O(n \log n)$", *Information Processing Letters* 35, pp. 49-51, 1990.

- Nancy Amato, Manuel Blum, Sandy Irani, Ronitt Rubinfeld, "Reversing Trains: A Turn of the Century Sorting Problem", *Journal of Algorithms*, 10(3):413-428, September 1989.

- James Barber, Richard Volz, Rajiv Desai, Ronitt Rubinfeld, Brian Schipper, Jan Wolter, "Automatic Evaluation of Two-Fingered Grips", *IEEE Journal of Robotics and Automation*, RA-3(4):356-361, August 1987.

Conference Publications

- Merav Parter, Ronitt Rubinfeld, Ali Vakilian Anak Yodpinyanee, "Local Computation Algorithms for Spanners," *Innovations in Theoretical Computer Science (ITCS)*, San Diego, CA, January 2019.

- Mohsen Ghaffari, Themis Gouleakis, Christian Konrad, Slobodan Mitrović, Ronitt Rubinfeld, "Improved Massively Parallel Computation Algorithms for MIS, Matching, and Vertex Cover," *Proceedings of the 37th ACM Principles of Distributed Computing (PODC 2018*, London, UK, July 2018.

- Maryam Aliakbarpour, Ilias Diakonikolas, Ronitt Rubinfeld, "Differentially Private Identity and Equivalence Testing of Discrete Distributions," *Proceedings of the 35th International Conference on Machine Learning (ICML 2018)*, Stockholmsmssan, Stockholm, Sweden, pages 169-178, July 2018.

- Piotr Indyk, Sepideh Mahabadi, Ronitt Rubinfeld, Ali Vakilian, Anak Yodpinyanee, "Set Cover in Sub-linear Time," *Proceedings of the Twenty-Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (SODA 2018)*, New Orleans, LA, pages 2467-2486, January 2018.

- Ronitt Rubinfeld, "Local Computation Algorithms (Invited Talk)," *44th International Colloquium on Automata, Languages, and Programming (ICALP 2017)*, Warsaw, Poland, pages pages 3:1-3:1, July 2017.

- Ronitt Rubinfeld, "Can We Locally Compute Sparse Connected Subgraphs?," in Pascal Weil, editor, *Computer Science - Theory and Applications - 12th International Computer Science Symposium (CSR 2017), Kazan, Russia, June 2017*, volume 10304 of *Lecture Notes in Computer Science*, pages 38-47, 2017. Springer.

- Piotr Indyk, Sepideh Mahabadi, Ronitt Rubinfeld, Jonathan Ullman, Ali Vakilian, Anak Yodpinyanee, "Fractional Set Cover in the Streaming Model," *Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques, APPROX/RANDOM 2017*, Berkeley, CA, pages 12:1-12:20, August 2017.

- Reut Levi, Dana Ron, Ronitt Rubinfeld, "A Local Algorithm for Constructing Spanners in Minor-Free Graphs," *Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques, APPROX-RANDOM 2016*, Paris, France, pages 38:1-38:15, September 2016. Also, CoRR abs/1604.07038, 2016.

- Maryam Aliakbarpour, Eric Blais, Ronitt Rubinfeld, "Learning and Testing Junta Distributions," *Proceedings of the 29th Conference on Learning Theory, COLT 2016*, New York, NY, pages 19-46, June 2016.

- Clément L. Canonne, Ilias Diakonikolas, Themis Gouleakis, Ronitt Rubinfeld: Testing Shape Restrictions of Discrete Distributions. *33rd Symposium on Theoretical Computer Science, STACS 2016*, Orléans, France, pages 25:1-25:14, February 2016.

- Clément L. Cannone, Themis Gouleakis, Ronitt Rubinfeld, "Sampling Correctors," *7th Annual Innovations in Theoretical Computer Science (ITCS)*, Cambridge, MA, pages 93-102, January 2016. Also, CoRR abs/1504.06544, 2015.

- Reut Levi, Ronitt Rubinfeld, Anak Yodpinyanee, "Brief Announcement: Local Computation Algorithms for Graphs of Non-Constant Degrees", *Proceedings of the 27th ACM on Symposium on Parallelism in Algorithms and Architectures, SPAA 2015*, pages 59-61, Portland, Oregon, June 2015. Also, CoRR abs/1502.04022, 2015.

- Reut Levi, Dana Ron, Ronitt Rubinfeld, "Local Algorithms for Sparse Spanning Graphs", *Approximation, Randomization, and Combinatorial Optimization. Algorithms and Techniques, APPROX/RANDOM 2014*, Barcelona, Spain, pages 826-842, September 2014. Also, CoRR abs/1402.3609, 2014.

- Clément L. Canonne, Ronitt Rubinfeld, "Testing Probability Distributions Underlying Aggregated Data", in Javier Esparza, Pierre Fraigniaud, Thore Husfeldt, Elias Koutsoupias, editors, *Automata, Languages, and Programming - 41st International Colloquium, ICALP 2014, Copenhagen, Denmark, July 8-11, 2014, Proceedings, Part I*, Lecture Notes in Computer Science, July 8-11, 2014. Springer. Also, CoRR abs/1402.3835, 2014 and Electronic Colloquium on Computational Complexity (ECCC) TR14-021, February 2014.

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17

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