C. Seshadhri (Seshadhri Comandur)

Professor, University of California, Santa Cruz

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Research Interests

Randomized Algorithms, Algorithms and Theoretical Foundations for Massive Data, Social Network Analysis

Teaching Interests

Theoretical Computer Science, Foundations of Data Science

Work experience

2020-	Professor, University of California, Santa Cruz
2018-2020	Associate Professor, University of California, Santa Cruz
2015-2018	Assistant Professor, University of California, Santa Cruz
2014-2015	Principal Member of Technical Staff, Sandia National Laboratories, Livermore
2010-2014	Senior Member of Technical Staff, Sandia National Laboratories, Livermore
2008-2010	Postdoctoral Fellow, Principles and Methodologies Group, IBM Almaden
2007	Summer Intern, Principles and Methodologies Group, IBM Almaden
2002	Summer Intern, Tata Institute of Fundamental Research, Bombay, India

Education

2003-2008	PH.D in Computer Science, Princeton University
	Advisor: Bernard Chazelle
	Thesis title: Sublinear Reconstruction Algorithms
1999-2003	B.TECH in Computer Science and Engineering, Indian Institute of Technology, Kanpur

Honors & awards

2020	Co-author of *Best Paper* at the 2020 Web Science and Data Mining Conference (WSDM) for: "The Power of Pivoting for Exact Clique Counting"
2019	SDM/IBM Early Career Data Mining Research Award Awarded yearly to one individual for outstanding contributions to data science within 10 years of PhD
2017	Co-author of *Best Paper* at the 2017 World Wide Web Conference (WWW) for: "A Fast and Provable Method for Estimating Clique Counts Using Turán's Theorem"
2015	Co-author of *Best Paper* at the 2015 IEEE International Conference on Data Mining (ICDM) for: "Diamond Sampling for Approximate Maximum All-pairs Dot-product (MAD) Search"
2015	Co-author of *Best Paper Finalist* at the 2015 World Wide Web Conference (WWW) for: "Finding the Hierarchy of Dense Subgraphs using Nucleus Decompositions"
2013	Co-author of *Best Student Paper* at the 2013 ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) for: "A Space Efficient Streaming Algorithm for Triangle Counting using the Birthday Paradox"
2013	Co-author of *Best Research Paper* at the 2013 SIAM Conference on Data Mining (SDM) for: "Triadic Measures on Graphs: The Power of Wedge Sampling"
2013	Sandia National Laboratories *Employee Recognition Award* for Individual Technical Excellence (Awarded yearly to less than 100 employees)
2003	*Director's Gold Medal* in the IIT Kanpur class of 2003 Awarded one per class of 450 students to the best all-round student
1997	Scholarship in National Talent Search Examination (NTSE) 1997

Grants

2019-2022	NSF Grant: *An Investigation of Richer Conductance Measures for Real-world Graphs*, $500K
2018-2021	ARO Grant: *Algorithms and Distribution-Free Models for Social and Information Networks*, $600K (300K for UCSC)
2018-2022	NSF Grant: *TRIPODS: TRIPODS: Towards a Unified Theory of Structure, Incompleteness & Uncertainty in Heterogeneous Graphs*, $1.5M
2018-2020	NSF Grant: *A Theory of High Dimensional Property Testing*, $230K
2016-2017	University sub-contract on Sandia National Laboratory Directed R&D: *Accurate Characterization Of Real Networks from Inaccurate Measurements*, $160K
2010-2012	PI on Sandia National Labs Early Career R&D: *Sublinear Algorithms For Massive Data Sets*, Amount undisclosed

Conference Publications

2022	Balaram Behera, Edin Husic, Shweta Jain, Tim Roughgarden, and C. Seshadhri. Fpt algorithms for finding near-cliques in c-closed graphs. In *Innovations in Theoretical Computer Science (ITCS)*, 2022.
2022	Sabyasachi Basu, Akash Kumar, and C. Seshadhri. The complexity of testing all properties of planar graphs, and the role of isomorphism. In *Symposium of Discrete Algorithms (SODA)*, 2022.

2021   Akash Kumar, C. Seshadhri, and Andrew Stolman. Random walks and forbidden minors III: poly(d/epsilon)-time partition oracles for minor-free graph classes. In *Foundations of Computer Science (FOCS)*, 2021.

2021   Noujan Pashanasangi and C. Seshadhri. Faster and generalized temporal triangle counting, via degeneracy ordering. In *Conference on Knowledge Discovery and Data Mining (KDD)*, 2021.

2021   Suman K. Bera, Noujan Pashanasangi, and C. Seshadhri. Near-linear time homomorphism counting in bounded degeneracy graphs: The barrier of long induced cycles. In *Symposium of Discrete Algorithms (SODA)*, 2021.

2020   Suman K. Bera and C. Seshadhri. How to count triangles, without seeing the whole graph. In *Conference on Knowledge Discovery and Data Mining (KDD)*, 2020.

2020   Suman K. Bera, Noujan Pashanasangi, and C. Seshadhri. Linear time subgraph counting, graph degeneracy, and the chasm at size six. In *Innovations in Theoretical Computer Science (ITCS)*, volume 151, 2020.

2020   Suman K. Bera and C. Seshadhri. How the degeneracy helps for triangle counting in graph streams. In *Symposium on Principles of Database Systems (PODS)*, 2020.

2020   Talya Eden, Dana Ron, and C. Seshadhri. Faster sublinear approximation of the number of k-cliques in low-arboricity graphs. In *Symposium of Discrete Algorithms (SODA)*. SIAM, 2020.

2020   Hadley Black, Deeparnab Chakrabarty, and C. Seshadhri. Domain reduction for monotonicity testing: A $o(d)$ tester for boolean functions in d-dimensions. In *Symposium of Discrete Algorithms (SODA)*, 2020.

2020   Shweta Jain and C. Seshadhri. The power of pivoting for exact clique counting. In *International Conference on Web Search and Data Mining (WSDM)*. ACM, 2020.

2020   Noujan Pashanasangi and C. Seshadhri. Efficiently counting vertex orbits of all 5-vertex subgraphs, by EVOKE. In *International Conference on Web Search and Data Mining (WSDM)*, 2020.

2020   Shweta Jain and C. Seshadhri. Provably and efficiently approximating near-cliques using the turán shadow: PEANUTS. In *Proceedings of the Web Conference (WWW)*, 2020.

2019   Akash Kumar, C. Seshadhri, and Andrew Stolman. Random walks and forbidden minors II: a poly($d\ \epsilon^{-1}$)-query tester for minor-closed properties of bounded degree graphs. In *Symposium on Theory of Computing (STOC)*, 2019.

2019   D. Chakrabarty and C. Seshadhri. Adaptive boolean monotonicity testing in total influence time. In *Innovations in Theoretical Computer Science (ITCS)*, 2019.

2018   Akash Kumar, C. Seshadhri, and Andrew Stolman. Finding forbidden minors in sublinear time: a $o(n^{1/2 + o(1)})$-query one-sided tester for minor closed properties on bounded degree graphs. In *Foundations of Computer Science (FOCS)*, 2018.

2018   J. Fox, T. Roughgarden, C. Seshadhri, F. Wei, and N. Wein. Finding cliques in social networks: A new distribution-free model. In *International Colloquium on Automata, Languages and Programming (ICALP)*, 2018.

2018   Talya Eden, Shweta Jain, Ali Pinar, Dana Ron, and C. Seshadhri. Provable and practical approximations for the degree distribution using sublinear graph samples. In *Proceedings of the Web Conference (WWW)*, 2018.

2018   Talya Eden, Dana Ron, and C. Seshadhri. On approximating the number of k-cliques in sublinear time. In *Symposium on Theory of Computing (STOC)*, 2018.

2018   Hadley Black, Deeparnab Chakrabarty, and C. Seshadhri. A $o(d) \cdot$ polylog n monotonicity tester for boolean functions over the hypergrid $[n]^d$. In *Symposium of Discrete Algorithms (SODA)*, 2018.

2017   Roksana Baleshzar, Deeparnab Chakrabarty, Ramesh Krishnan S. Pallavoor, Sofya Raskhodnikova, and C. Seshadhri. Optimal unateness testers for real-valued functions: Adaptivity helps. In *International Colloquium on Automata, Languages and Programming (ICALP)*, 2017.

2017   Talya Eden, Dana Ron, and C. Seshadhri. Sublinear time estimation of degree distribution moments: The degeneracy connection. In *International Colloquium on Automata, Languages and Programming (ICALP)*, 2017.

2017   S. Jain and C. Seshadhri. A fast and provable method for estimating clique counts using Turán's theorem. In *World Wide Web (WWW)*, 2017.

2017   A. Pinar, C. Seshadhri, and V. Vishal. Escape: Efficiently counting all 5-vertex subgraphs. In *World Wide Web (WWW)*, 2017.

2017   A. Sharma, C. Seshadhri, and A. Goel. When hashes met wedges: A distributed algorithm for finding high similarity vectors. In *World Wide Web (WWW)*, 2017.

2017   T. Naumovitz, M. Saks, and C. Seshadhri. Accurate and nearly optimal sublinear approximations to ulam distance. In *Symposium on Discrete Algorithms (SODA)*, 2017.

2016   B. Raichel and C. Seshadhri. A mountaintop view requires minimal sorting: A faster contour tree algorithm. In *Symposium on Computational Geometry (SoCG)*, 2016.

2015   T. Eden, A. Levi, D. Ron, and C. Seshadhri. Approximately counting triangles in sublinear time. In *Foundations of Computer Science (FOCS)*, 2015.

2015   O. Simpson, C. Seshadhri, and A. McGregor. Catching the head, the tail, and everything in between: a streaming algorithm for the degree distribution. In *International Conference on Data Mining (ICDM)*, 2015.

2015   G. Ballard, T. G. Kolda, A. Pinar, and C. Seshadhri. Diamond sampling for approximate maximum all-pairs dot-product (mad) search. In *International Conference on Data Mining (ICDM)*, 2015.

2015   M. Jha, C. Seshadhri, and A. Pinar. Path sampling: A fast and provable method for estimating 4-vertex subgraph counts. In *World Wide Web (WWW)*, 2015.

2015   A. Erdem Sariyuce, C. Seshadhri, A. Pinar, and U. Catalyurek. Finding the hierarchy of dense subgraphs using nucleus decompositions. In *World Wide Web (WWW)*, 2015.

2015   Deeparnab Chakrabarty, Kashyap Dixit, Madhav Jha, and C. Seshadhri. Property testing on product distributions: Optimal testers for bounded derivative properties. In *Proceedings of the Symposium on Discrete Algorithms (SODA)*, 2015.

2014   P. Lofgren, S. Banerjee, A. Goel, and C. Seshadhri. Fast-ppr: Scaling personalized pagerank estimation for large graphs. In *Knowledge Discovery and Data Mining (KDD)*, 2014.

2014   J. Berry, L. Fostvedt, D. Nordman, C. Phillips, C. Seshadhri, and A. Wilson. Why do simple algorithms for triangle enumeration work in the real world? In *Innovations in Theoretical Computer Science (ITCS)*, 2014.

2014   R. Gupta, T. Roughgarden, and C. Seshadhri. Decompositions of triangle-dense graphs. In *Innovations in Theoretical Computer Science (ITCS)*, 2014.

2013   D. Thompson, J. C. Bennett, C. Seshadhri, and A. Pinar. A provably-robust sampling method for generating colormaps of large data. In *Large-Scale Data Analysis and Visualiation (LDAV)*, 2013.

2013   M. Jha, C. Seshadhri, and A. Pinar. A space efficient streaming algorithm for triangle counting using the birthday paradox. In *Knowledge Discovery and Data Mining (KDD)*, 2013.

2013   D. Chakrabarty and C. Seshadhri. An optimal lower bound for monotonicity testing over hypergrids. In *International Workshop on Randomization and Computation (RANDOM)*, 2013.

2013   D. Chakrabarty and C. Seshadhri. An o(n) monotonicity tester for boolean functions over the hypercube. In *Symposium on Theory of Computing (STOC)*, 2013.

2013   D. Chakrabarty and C. Seshadhri. Optimal bounds for monotonicity and Lipschitz testing over hypercubes and hypergrids. In *Symposium on Theory of Computing (STOC)*, 2013.

2013   C. Seshadhri, A. Pinar, and T. G. Kolda. Triadic measures on graphs: The power of wedge sampling. In *SIAM Conference on Data Mining (SDM)*, 2013.

2013   N. Durak, T. G. Kolda, A. Pinar, and C. Seshadhri. A scalable directed graph model with reciprocal edges. In *IEEE Workshop on Network Science*, 2013.

2013   M. Saks and C. Seshadhri. Space efficient streaming algorithms for the distance to monotonicity and asymmetric edit distance. In *Symposium on Discrete Algorithms (SODA)*, 2013.

2012   D. Gleich and C. Seshadhri. Vertex neighborhoods, low conductance cuts, and good seeds for local community methods. In *Knowledge Discovery and Data Mining (KDD)*, 2012.

2012   K. Clarkson, W. Mulzer, and C. Seshadhri. Self-improving algorithms for coordinate-wise maxima. In *Symposium on Computational Geometry (SoCG)*, 2012.

2012   N. Durak, A. Pinar, T. G. Kolda, and C. Seshadhri. Degree relations of triangles in real-world networks and graph models. In *Conference on Information and Knowledge Management (CIKM)*, 2012.

2012   J. Ray, A. Pinar, and C. Seshadhri. Are we there yet? When to stop a Markov chain while generating random graphs. In *Workshop on Algorithms and Models for the Web Graph (WAW)*, 2012.

2012   A. Pinar, C. Seshadhri, and T. G. Kolda. The similarity between Stochastic Kronecker and Chung-Lu graph models. In *SIAM Conference on Data Mining (SDM)*, 2012.

2011   C. Seshadhri, A. Pinar, and T. G. Kolda. An in-depth analysis of Stochastic Kronecker graphs. In *International Conference on Data Mining (ICDM)*, 2011.

2011   N. Saxena and C. Seshadhri. Blackbox identity testing for bounded top fanin depth-3 circuits: the field doesn't matter. In *Symposium on Theory of Computing (STOC)*, 2011.

2011   Satyen Kale and C. Seshadhri. Combinatorial approximation algorithms for maxcut using random walks. In *Innovations in Computer Science (ICS)*, 2011.

2011   C. Seshadhri and J. Vondrak. Is submodularity testable? In *Innovations in Computer Science (ICS)*, 2011.

2010   N. Saxena and C. Seshadhri. From Sylvester-Gallai configurations to rank bounds: Improved black-box identity test for depth-3 circuits. In *Foundations of Computer Science (FOCS)*, 2010.

2010   K. Clarkson, W. Mulzer, and C. Seshadhri. Self-improving algorithms for convex hulls. In *Symposium on Discrete Algorithms (SODA)*, 2010.

2010   M. Saks and C. Seshadhri. Estimating the longest increasing sequence in polylogarithmic time. In *Foundations of Computer Science (FOCS)*, 2010.

2009   N. Saxena and C. Seshadhri. An almost optimal rank bound for depth-3 identities. In *Conference on Computational Complexity (CCC)*, 2009.

2009   E. Hazan and C. Seshadhri. Efficient learning algorithms for changing environments. In *International Conference on Machine Learning (ICML)*, 2009.

2008	S. Kale, Y. Peres, and C. Seshadhri. Noise tolerance of expanders and sublinear expander reconstruction. In *Foundations of Computer Science (FOCS)*, 2008.
2008	S. Kale and C. Seshadhri. An expansion tester for bounded degree graphs. In *International Colloquium on Automata, Languages and Programming (ICALP)*, 2008.
2008	K. L. Clarkson and C. Seshadhri. Self-improving algorithms for delaunay triangulations. In *Symposium on Computational Geometry (SoCG)*, 2008.
2008	M. Saks and C. Seshadhri. Parallel monotonicity reconstruction. In *Symposium on Discrete Algorithms (SODA)*, 2008.
2006	N. Ailon, B. Chazelle, S. Comandur, and D. Liu. Self-improving algorithms. In *Symposium on Discrete Algorithms (SODA)*, 2006.
2006	B. Chazelle and C. Seshadhri. Online geometric reconstruction. In *Symposium on Computational Geometry (SoCG)*, 2006.
2005	C. Seshadhri, A. Seth, and S. Biswas. RAM simulation of BGS model of abstract state machines. In *Workshop on Abstract State Machines (ASM)*, 2005.
2004	N. Ailon, B. Chazelle, S. Comandur, and D. Liu. Property-preserving data reconstruction. In *International Symposium on Algorithms and Computation (ISAAC)*, 2004.
2004	N. Ailon, B. Chazelle, S. Comandur, and D. Liu. Estimating the distance to a monotone function. In *International Workshop on Randomization and Computation (RANDOM)*, 2004.

Journal Publications

2020	Talya Eden, Dana Ron, and C. Seshadhri. On approximating the number of k-cliques in sublinear time. *SIAM J. on Computing*, 2020.
2020	Jacob Fox, Tim Roughgarden, C. Seshadhri, Fan Wei, and Nicole Wein. Finding cliques in social networks: A new distribution-free model. *SIAM J. on Computing*, 2020.
2020	C. Seshadhri, Aneesh Sharma, Andrew Stolman, and Ashish Goel. The impossibility of low-rank representations for triangle-rich complex networks. *Proceedings of the National Academy of Sciences*, 2020.
2020	Roksana Baleshzar, Deeparnab Chakrabarty, Ramesh Krishnan S. Pallavoor, Sofya Raskhodnikova, and C. Seshadhri. Optimal unateness testers for real-valued functions: Adaptivity helps. *Theory of Computing*, 2020.
2019	Talya Eden, Dana Ron, and C. Seshadhri. Sublinear time estimation of degree distribution moments: The arboricity connection. *SIAM J. on Discrete Math*, 2019.
2018	Ahmet Erdem Sariyüce, C. Seshadhri, and Ali Pinar. Local algorithms for hierarchical dense subgraph discovery. *PVLDB*, 2018.
2017	Ahmet Erdem Sariyüce, C. Seshadhri, Ali Pinar, and Ümit V. Çatalyürek. Nucleus decompositions for identifying hierarchy of dense subgraphs. *TWEB*, 2017.
2017	Benjamin Raichel and C. Seshadhri. Avoiding the global sort: A faster contour tree algorithm. *Discrete & Computational Geometry*, 2017.
2017	Talya Eden, Amit Levi, Dana Ron, and C. Seshadhri. Approximately counting triangles in sublinear time. *SIAM J. on Computing*, 2017.
2017	C. Seshadhri, Ali Pinar, Nurcan Durak, and Tamara G. Kolda. Directed closure measures for networks with reciprocity. *Journal of Complex Networks*, 2017.

2017   Deeparnab Chakrabarty, Kashyap Dixit, Madhav Jha, and C. Seshadhri. Property testing on product distributions: Optimal testers for bounded derivative properties. *ACM Trans. Algorithms*, 2017.

2017   Michael E. Saks and C. Seshadhri. Estimating the longest increasing sequence in polylogarithmic time. *SIAM J. on Computing*, 2017.

2016   C. Seshadhri, A. Smith, Y. Vorobeychik, J. Mayo, and R. Armstrong. Characterizing short-term stability for boolean networks over any distribution of transfer functions. *Physical Review E*, 2016.

2016   J. Bennett, A. Bhagatwala, J. Chen, A. Pinar, M. Salloum, and C. Seshadhri. Trigger detection for adaptive scientific workflows using percentile sampling. *SIAM Journal on Scientific Computing (SISC)*, 2016.

2016   D. Chakrabarty and C. Seshadhri. An o(n) monotonicity tester for boolean functions over the hypercube. *SIAM J. on Computing*, 2016.

2015   J. Berry, L. Fostvedt, D. Nordman, C. Phillips, C. Seshadhri, and A. Wilson. Why do simple algorithms for triangle enumeration work in the real world? *Internet Mathematics*, 2015.

2014   A. Czumaj, O. Goldreich, D. Ron, C. Seshadhri, A. Shapira, and C. Sohler. Finding cycles and trees in sublinear time. *Random Structures and Algorithms*, 2014.

2014   T. G. Kolda, A. Pinar, T. Plantenga, C. Seshadhri, and C. Task. Counting triangles in massive graphs with mapreduce. *SIAM Journal on Scientific Computing*, 2014.

2014   T. G. Kolda, A. Pinar, T. Plantenga, and C. Seshadhri. A scalable generative graph model with community structure. *SIAM Journal on Scientific Computing*, 2014.

2014   Deeparnab Chakrabarty and C. Seshadhri. An optimal lower bound for monotonicity testing over hypergrids. *Theory of Computing*, 2014.

2013   N. Saxena and C. Seshadhri. From Sylvester-Gallai configurations to rank bounds: Improved black-box identity test for depth-3 circuits. *Journal of the ACM*, 2013.

2013   C. Seshadhri, A. Pinar, and T. G. Kolda. An in-depth analysis of Stochastic Kronecker graphs. *Journal of the ACM*, 2013.

2013   S. Kale, Y. Peres, and C. Seshadhri. Noise tolerance of expanders and sublinear expansion reconstruction. *SIAM J. on Computing*, 2013.

2012   C. Seshadhri and J. Vondrak. Is submodularity testable? *Algorithmica*, 2014.

2012   N. Saxena and C. Seshadhri. Blackbox identity testing for bounded top-fanin depth-3 circuits: The field doesn't matter. *SIAM J. on Computing*, 2012.

2012   C. Seshadhri, Tamara G. Kolda, and Ali Pinar. Community structure and scale-free collections of Erdős-Rényi graphs. *Physical Review E*, 2012.

2011   C. Seshadhri, Y. Vorobeychik, J. Mayo, R. Armstrong, and J. Ruthruff. Influence and dynamic behavior in random boolean networks. *Physical Review Letters*, 2011.

2011   B. Chazelle and C. Seshadhri. Online geometric reconstruction. *Journal of the ACM*, 2011.

2011   N. Ailon, B. Chazelle, K. Clarkson, D. Liu, W. Mulzer, and C. Seshadhri. Self-improving algorithms. *SIAM J. on Computing*, 2011.

2011   S. Kale and C. Seshadhri. An expansion tester for bounded degree graphs. *SIAM J. on Computing*, 2011.

2010   M. Saks and C. Seshadhri. Local monotonicity reconstruction. *SIAM J. on Computing*, 2010.

2008   N. Ailon, B. Chazelle, S. Comandur, and D. Liu. Property-preserving data reconstruction. *Algorithmica*, 2008.

2007   N. Ailon, B. Chazelle, S. Comandur, and D. Liu. Estimating the distance to a monotone func-
        tion. *Random Structures and Algorithms*, 2007.

Students and Postdocs

Current, University of California, Santa Cruz

2021-   Daniel Paul Pena, graduate student
2019-   Konstantinos Zampetakis, graduate student
2019-   Sabyasachi Basu, graduate student
2018-   William Bolden, graduate student
2018-   Noujan Pashanasangi, graduate student

Graduated, University of California, Santa Cruz

2019-2021   Suman Bera, Postdoc
2019-2020   Caleb Levy, Postdoc
2016-2021   Andrew Stolman, PhD
2015-2020   Shweta Jain, PhD (Awarded Runner-Up for ACM SIGKDD Dissertation Award)
2016-2018   Hadley Black, MS

Sandia National Laboratories, Livermore

2014   Olivia Simpson, summer intern
2013-2014   Madhav Jha, von Neumann postdoc
2013   Benjamin Raichel, summer intern
2013   Kashyap Dixit, summer intern
2012   Madhav Jha, summer intern

Professional Service

2019-2021   Associate Editor for Discrete Optimization
2019-   Associate Editor for SIAM Journal on Mathematics of Data Science
2018-2021   Program Director for SIAM Group on Discrete Mathematics

(Senior) Program committee member for following conferences:
- Senior PC, SIAM Conference on Data Mining (SDM), 2022
- Senior PC, The Web Conference (WWW), 2022
- Senior PC, SIAM Conference on Data Mining (SDM), 2021
- Senior PC, The Web Conference (WWW), 2021
- Senior PC, SIAM Conference on Data Mining (SDM), 2020
- Foundations of Software Technology and Theoretical Computer Science (FST&TCS) 2020
- International Conference on Randomization and Computation (RANDOM) 2019
- Senior PC, The Web Conference (WWW) 2019
- Senior PC, SIAM Conference on Data Mining (SDM) 2019
- Senior PC, The Web Conference (WWW) 2018

- Innovations in Theoretical Computer Science (ITCS) 2018
- Senior PC, Web Search and Data Mining (WSDM) 2018
- Algorithm Engineering and Experiments (ALENEX) 2017
- Knowledge Discovery and Data Mining (KDD) 2017
- SIAM Workshop on Combinatorial Scientific Computing (SIAM CSC) 2016
- SIAM Network Science Workship (SIAMNS) 2015
- Innovations in Theoretical Computer Science (ITCS) 2015
- Symposium on Discrete Algorithms (SODA) 2014
- Foundations of Software Technology and Theoretical Computer Science (FST&TCS) 2013
- IEEE Workshop on Network Science for Communication Networks (NetSciCom) 2013
- Foundations of Computer Science (FOCS) 2012

Reviewer for following conferences and journals:

Journal of the ACM · SIAM Journal on Computing · Algorithmica · Europhysics Letters · Very Large Databases Journal · Knowledge Discovery and Data Mining (KDD) · World Wide Web Conference (WWW) · Symposium on Theory of Computing (STOC) · Foundations of Computer Science (FOCS) · Symposium on Discrete Algorithms (SODA) · RANDOM · International Colloquium on Automata, Languages, and Programming (ICALP) · European Symposium on Algorithms (ESA)

Workshops Organized

2016	Minisymposium on The Mathematics Behind Big Data Analysis, at the SIAM Conference on Discrete Math
2016	Workshop on Incomplete Network Data, Sandia National Laboratories, Livermore
2014	Workshop on Streaming Graph Algorithms, Sandia National Laboratories, Albuquerque

Consulting

2015-2017	Research Consultant for Twitter
2015-	Advisor for ONU Technology (graphs algorithms startup funded by DARPA)
2015	Research Consultant for Sandia National Laboratories

Invited talks

June 2021	Statistical Inference for Network Models invited talk: *Studying the (in)effectiveness of low dimensional graph embeddings*
July 2019	Workshop of Local Algorithms (WOLA) invited talk: *How random walks led to advances in testing minor-freeness*
July 2019	Highlight on Algorithms (HALG) invited talk: *Finding forbidden minors through random walks: (almost) $n^{1/2}$ query one-sided testers for minor closed properties*
June 2019	IBM Almaden Distinguished Speaker forum: *When Hashes Met Wedges - A Distributed Algorithm for Finding High Similarity Vectors*
Oct 2018	TCS+ seminar: *Finding forbidden minors through random walks: (almost) $n^{1/2}$ query one-sided testers for minor closed properties*

May 2017   Bay Area Theory Day: *Counting subgraphs without the whole graph*
July 2016   Google Tech Talk: *Sampling paths in graphs: A simple technique for not so simple problems*

June 2016   SIAM Conference on Discrete Math: *Sampling paths in graphs: A simple technique for not so simple problems*

Dec 2013   Mini-workshop on Sublinear Time Algorithms, National Institute of Informatics, Tokyo: *Monotonicity testing and alternating paths*

Nov 2013   Workshop on Unifying Theory and Practice, Simons Institute, Berkeley: *The trials and tribulations of tractably tabulating triangles*

Sept 2013   CS Theory seminar, Chennai Mathematical Institute, Chennai: *Monotonicity testing and directed isoperimetry*

July 2013   Spotlights session, AAAI Conference on Artificial Intelligence, Seattle: *Triadic measures on graphs: the power of wedge sampling*

June 2013   Property testing workshop, Haifa: *Monotonicity testing and alternating paths*

May 2013   TCS+ seminar: *Monotonicity testing, alternating paths, directed isoperimetry, and strawberries*

May 2013   CS Theory seminar, University of California, Berkeley: *Optimal bounds for monotonicity and Lipschitz testing over hypercubes and hypergrids*

May 2011   Bertinoro workshop on sublinear algorithms, Bertinoro: *Estimating the longest increasing sequence in polylogarithmic time*

July 2010   CS Theory seminar, Microsoft Research, Bangalore: *Estimating the longest increasing sequence in polylogarithmic time*

Nov 2009   CS Theory seminar, Hausdorff Center for Mathematics, Bonn: *Self-improving algorithms for convex hulls*

Sept 2008   China Theory Week, Tsinghua University: *Self-improving algorithms for Delaunay triangulations*

July 2008   Dagstuhl workshop on sublinear algorithms, Schloss Dagstuhl: *Local monotonicity reconstruction*

Feb 2008   CS Theory seminar, University of Toronto: *Adaptive algorithms for online optimization problems*

Feb 2008   Theory seminar, Google, NY: *Adaptive algorithms for online optimization problems*

Aug 2007   CS Theory seminar, IBM Almaden: *Self-improving algorithms*

Mar 2007   CS Theory seminar, IBM T. J. Watson: *Online reconstruction*

Oct 2006   DIMACS Mixer Series, Rutgers University: *Online geometric reconstruction*

Sept 2004   CS Theory seminar, Princeton University: *Estimating distance to monotonicity*