## CURRICULUM VITAE

PARIKSHIT GOPALAN

Machine Learning Researcher, Apple.

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## **Research Interests**

- Machine learning, fairness, interpretability, unsupervised learning, anomaly detection.
- Algorithms for big data, systems for analyzing, visualizing and storing big data.
- Information theory, coding theory, codes for distributed storage.
- Theoretical computer science, algorithms, computational complexity.

## Education

2000-2006	<b>Ph.D, Georgia Institute of Technology</b> Algorithms, Combinatorics and Optimization (ACO) program.
1996-2000	<b>B.Tech, Indian Institute of Technology, Bombay</b> Computer Science and Engineering.

## PROFESSIONAL EXPERIENCE

APR'22- ML/AI Researcher, Apple.

MAY'16-APR'22 Senior Staff Researcher, VMware Research.

FEB'15-MAY'16 Senior Researcher, Microsoft Research Redmond.

NOV'08-FEB'15 Researcher, Microsoft Research Silicon Valley, Azure Storage.

AUG'06-OCT'08 **Postdoctoral/Visiting Researcher**, University of Texas at Austin, University of Washington, Technion (Israel Institute of Technology).

## Awards and Honors

• 2014 Joint IEEE Communication Society & Information Theory Society Paper Prize.

Awarded to Parikshit Gopalan, Cheng Huang, Huseyin Simitci and Sergey Yekhanin for the paper On the Locality of Codeword Symbols (IEEE Transactions on Information Theory, 2012). Annual award that recognizes outstanding papers at the intersection of communications and information theory.

• 2013 Microsoft Technical Community Network Storage Technical Award. Awarded to Brad Calder, Parikshit Gopalan, Cheng Huang, Jin Li, Aaron Ogus, Huseyin Simitci, Yikang Xu, and Sergey Yekhanin for implementing erasure coding in Windows Azure Storage. Annual award given a team in Microsoft recognizing a significant achievement in the storage technology space. • Best Paper Award for the 2012 USENIX Advanced Technology Conference. Awarded to Cheng Huang, Huseyin Simitci, Yikang Xu, Aaron Ogus, Brad Calder, Parikshit Gopalan, Jin Li, and Sergey Yekhanin for *Erasure Coding in Windows Azure Storage*.

## Impact

- While at Microsoft, my collaborators and I introduced the notion of local repair for erasure coded data. We designed *Locally Repairable Codes (LRCs)* that were deployed by Windows Azure Storage, Windows 8.1 and Windows Server 2012 R2, resulting in huge cost savings to Microsoft. Our work introduced the notions of *LRCs* and *maximal recoverability for a topology*, both are now thriving research areas in coding theory.
- At VMware, I contributed to time-series forecasting, anomaly detection, forward error-correction for video and machine learning for security in VMware products.
- My collaborators and I built HillView, an open-source tool for fast interactive visualization and exploration of massive data sets using just the click of a mouse. HillView combines a distributed, parallel computation platform with highly optimized sketching and sampling algorithms for fast renderings. It is available from GitHub.

## Conference Publications

C50	Parikshit Gopalan, Nina Narodytska, Omer Reingold, Vatsal Sharan, Udi Wieder KL divergence estimation with multigroup attribution. Under submission
C49	Jaroslaw Blasiok, Parikshit Gopalan, Lunjia Hu, Preetum Nakkiran. A Unifying Theory of Distance from Calibration. Under submission
C48	Parikshit Gopalan, Michael Kim, Omer Reingold and Udi Wieder. Loss minimization through the lens of outcome indistinguishability 14 <sup>th</sup> Innovations in Theoretical Computer Science conference 2023 (ITCS'23).
C47	Parikshit Gopalan, Michael Kim, Mihir Singhal, Shengjia Zhao. Low-degree multicalibration. $35^{th}$ Conference on Learning Theory 2022 (COLT'22)
C46	Parikshit Gopalan, Adam Tauman Kalai, Omer Reingold, Vatsal Sharan, Udi Wieder. Omnipredictors. 13 <sup>th</sup> Innovations in Theoretical Computer Science conference 2022 (ITCS'22).
C45	Parikshit Gopalan, Omer Reingold, Vatsal Sharan, Udi Wieder. Multicalibrated Partitions for Importance Weights. 33 <sup>rd</sup> International Conference on Algorithmic Learning Theory (ALT'2022).
C44	<ul> <li>Parikshit Gopalan, Roie Levin, Udi Wieder.</li> <li>Finding Skewed Subcubes Under a Distribution.</li> <li>11<sup>th</sup> Innovations in Theoretical Computer Science conference 2020 (ITCS'20).</li> </ul>

C43	Mihai Budiu, Parikshit Gopalan, Lalith Suresh, Udi Wieder, Han Kruiger, Mar- cos K. Aguilera. Hillview: A trillion-cell spreadsheet for big data. Proc. VLDB Endow. 12(11): 1442-1457 (2019)
C42	Parikshit Gopalan, Vatsal Sharan, Udi Wieder. PIDForest: Anomaly Detection via Partial Identification. NeurIPS 2019 (Spotlight presentation).
C41	Vatsal Sharan, Parikshit Gopalan, Udi Wieder. Efficient Anomaly Detection via Matrix Sketching. NeurIPS 2018.
C40	Lalith Suresh, Dahlia Malkhi, Parikshit Gopalan, Ivan Porto Carreiro, Zeeshan Lokhandwala. Stable and Consistent Membership at Scale with Rapid. USENIX Annual Technical Conference 2018: 387-400
C39	Parikshit Gopalan, Guangda Hu, Swastik Kopparty, Shubhangi Saraf, Carol Wang, Sergey Yekhanin. Maximally Recoverable Codes for Grid-like Topologies. 28 <sup>th</sup> ACM-SIAM Symposium on Discrete Algorithms 2017 (SODA'17).
C38	<ul> <li>Parikshit Gopalan, Rocco A. Servedio and Avi Wigderson.</li> <li>Degree and sensitivity: tails of two distributions.</li> <li>31<sup>st</sup> IEEE Conference on Computational Complexity 2016 (CCC'16).</li> </ul>
C37	<ul> <li>Parikshit Gopalan, Noam Nisan, Rocco A. Servedio, Kunal Talwar, Avi Wigderson.</li> <li>Smooth Boolean functions are easy: efficient algorithms for low-sensitivity functions.</li> <li>7<sup>th</sup> Innovations in Theoretical Computer Science conference 2016 (ITCS'16), to appear.</li> </ul>
C36	Parikshit Gopalan, Daniel Kane and Raghu Meka. Pseudorandomness via the discrete Fourier transfrom. 56 <sup>th</sup> IEEE Symposium on Foundations of Computer Science 2015 (FOCS'15). Invited to SICOMP special issue for FOCS'15.
C35	Parikshit Gopalan, Noam Nisan and Tim Roughgarden. Public Projects, Boolean Functions, and the Borders of Border's Theorem. ACM Conference on Electronic Commerce (EC'2015). Invited to ACM Trans- actions on Economics and Computation special issue for EC'2015.
C34	Parikshit Gopalan, Salil P. Vadhan and Yuan Zhou. Locally testable codes and Cayley graphs. 5 <sup>th</sup> Innovations in Theoretical Computer Science conference 2014 (ITCS'14).
C33	Rodolfo Azevedo, John D. Davis, Karin Strauss, Parikshit Gopalan, Mark Man- asse and Sergey Yekhanin. Zombie memory: extending memory lifetime by reviving dead blocks. $40^{th} ACM/IEEE$ International Symposium on Computer Architecture 2013 (ISCA2013)

C32	<ul> <li>Parikshit Gopalan, Raghu Meka, Omer Reingold, Salil Vadhan and Luca Trevisan.</li> <li>Better pseduorandom generators from milder pseudorandom restrictions.</li> <li>53<sup>rd</sup> IEEE Symposium on Foundations of Computer Science 2012 (FOCS'12).</li> </ul>
C31	Boaz Barak, Parikshit Gopalan, Johan Håstad, Raghu Meka, Prasad Raghaven- dra and David Steurer. Making the Long code shorter. 53 <sup>rd</sup> IEEE Symposium on Foundations of Computer Science 2012 (FOCS'12).
C30	Parikshit Gopalan, Raghu Meka and Omer Reingold. DNF Sparsification and a faster deterministic counting algorithm. 27 <sup>th</sup> IEEE Conference on Computational Complexity 2012 (CCC'12).
C29	Parikshit Gopalan, Adam Klivans and Raghu Meka. Learning functions of halfspaces via prefix covers. Conference on Computational Learning 2012 (COLT'12).
C28	Cheng Huang, Huseyin Simitci, Yikang Xu, Aaron Ogus, Brad Calder, Parikshit Gopalan, Jin Li, and Sergey Yekhanin. Erasure Coding in Windows Azure Storage. 2012 USENIX Annual Technical Conference (USENIX ATC'12). Best Paper.
C27	<ul> <li>Parikshit Gopalan, Adam Klivans, Raghu Meka, Daniel Stefankovic, Santosh Vempala and Eric Vigoda.</li> <li>An FPTAS for #-Knapsack and Related Counting Problems.</li> <li>52<sup>nd</sup> IEEE Symposium on Foundations of Computer Science 2011 (FOCS'11).</li> </ul>
C26	Parikshit Gopalan, Raghu Meka, Omer Reingold and David Zuckerman. Pseudorandom generators for combinatorial shapes. 43 <sup>rd</sup> ACM Symposium on Theory of Computing 2011 (STOC'11).
C25	Zeev Dvir, Parikshit Gopalan and Sergey Yekhanin. Matching Vector Codes. 51 <sup>st</sup> IEEE Symposium on Foundations of Computer Science 2010 (FOCS'10).
C24	Parikshit Gopalan. A Fourier-analytic approach to Reed-Muller decoding 51 <sup>st</sup> IEEE Symposium on Foundations of Computer Science 2010 (FOCS'10).
C23	Parikshit Gopalan and Rocco Servedio. Learning and Lower Bounds for AC <sup>0</sup> with threshold gates. 14 <sup>th</sup> Intl. Workshop on Randomization and Computation 2010 (RANDOM'10).
C22	Parikshit Gopalan, Ryan O'Donnell, Yi Wu and David Zuckerman. Fooling functions of halfspaces under product distributions. 25 <sup>th</sup> IEEE Conference on Computational Complexity 2010 (CCC'10).
C21	Ilias Diakonikolas, Parikshit Gopalan, Ragesh Jaiswal, Rocco Servedio and Emanuele Viola. Bounded independence fools halfspaces. $50^{th}$ IEEE Symposium on Foundations of Computer Science 2009 (FOCS'09).

C20	Parikshit Gopalan, Shachar Lovett and Amir Shpilka. On the complexity of Boolean functions in different characteristics. 24 <sup>th</sup> IEEE Conference on Computational Complexity 2009 (CCC'09).
C19	<ul> <li>Parikshit Gopalan, Rocco Servedio, Ryan O'Donnell, Amir Shpilka and Karl Wimmer.</li> <li>Testing Fourier dimensionality and sparsity.</li> <li>36<sup>th</sup> International Colloquium on Automata, Languages and Programming 2009 (ICALP'09).</li> </ul>
C18	Parikshit Gopalan, Venkatesan Guruswami and Prasad Raghavendra. List decoding Tensor products and Interleaved codes. 41 <sup>st</sup> ACM Symposium on Theory of Computing 2009 (STOC'09).
C17	Parikshit Gopalan and Jaikumar Radhakrishnan. Finding duplicates in a data stream. 20 <sup>th</sup> ACM-SIAM Symposium on Discrete Algorithms 2009 (SODA'09).
C16	Parikshit Gopalan, Adam Tauman Kalai and Adam R. Klivans. A Query Algorithm for Agnostically Learning DNFs? A 2-page open problem in the Conference on Learning Theory 2008 (COLT'08)
C15	Parikshit Gopalan and Venkatesan Guruswami. Hardness Amplification within NP against Deterministic Algorithms. 23 <sup>rd</sup> IEEE Conference on Computational Complexity 2008 (CCC'08).
C14	Parikshit Gopalan, Adam Tauman Kalai and Adam R. Klivans. Agnostically Learning Decision Trees. 40 <sup>th</sup> ACM Symposium on Theory of Computing 2008 (STOC'08).
C13	Parikshit Gopalan, Adam R. Klivans and David Zuckerman. List-Decoding Reed-Muller codes over small fields. $40^{th} ACM Symposium on Theory of Computing 2008 (STOC'08).$
C12	Anna Gál and Parikshit Gopalan. Lower Bounds on Streaming Algorithms for Approximating the Length of the Longest Increasing Subsequence. 48 <sup>th</sup> IEEE Symposium on Foundations of Computer Science 2007 (FOCS'07).
C11	Parikshit Gopalan, Subhash Khot and Rishi Saket. Hardness of Reconstructing Multivariate Polynomials over Finite Fields. 48 <sup>th</sup> IEEE Symposium on Foundations of Computer Science 2007 (FOCS'07).
C10	Parikshit Gopalan, T.S. Jayram, Robert Krauthgamer and Ravi Kumar. Estimating the Sortedness of a Data Stream. 18 <sup>th</sup> ACM-SIAM Symposium on Discrete Algorithms 2007 (SODA'07).
C9	Vitaly Feldman, Parikshit Gopalan, Subhash Khot and Ashok K. Ponnuswami. New Results for Learning Noisy Parities and Halfspaces. 47 <sup>th</sup> IEEE Symposium on Foundations of Computer Science 2006 (FOCS'06).
C8	Parikshit Gopalan, Phokion Kolaitis, Elitza Maneva and Christos Papadim- itriou. Connectivity of Boolean Satisfiability: Computational and Structural Dichotomies.

33 <sup>rd</sup> International Colloquium on Automata, Languages and Programming 2006 (ICALP'06).
Parikshit Gopalan. Constructing Ramsey Graphs from Boolean Function Representations. $21^{st}$ IEEE Conference on Computational Complexity 2006 (CCC'06).
Parikshit Gopalan, Venkatesan Guruswami and Richard J. Lipton. Algorithms for Modular Counting of Roots of Multivariate Polynomials. Latin American Theoretical Informatics Symposium 2006 (LATIN'06).
Parikshit Gopalan. Query-Efficient Algorithms for Polynomial Interpolation over Composites. 17 <sup>th</sup> ACM-SIAM Symposium on Discrete Algorithms 2006 (SODA'06).
Saugata Basu, Nayantara Bhatnagar, Parikshit Gopalan and Richard J. Lipton. Polynomials that Sign Represent Parity and Descartes' Rule of Signs. 19 <sup>th</sup> IEEE Conference on Computational Complexity 2004 (CCC'04).
Parikshit Gopalan, Richard J. Lipton and Aranyak Mehta. Randomized Space-Time Tradeoffs for Directed Graph Connectivity. Foundations of Software Technology & Theoretical Computer Science 2003. (FSTTCS'03).
Nayantara Bhatnagar, Parikshit Gopalan and Richard J. Lipton. Symmetric Polynomials over $\mathbb{Z}_m$ and Simultaneous Communication Protocols. $44^{th}$ IEEE Symposium on Foundations of Computer Science 2003 (FOCS'03).
<ul> <li>Parikshit Gopalan, Howard Karloff, Aranyak Mehta, Milena Mihail and Nisheeth Vishnoi.</li> <li>Caching with Expiration Times.</li> <li>13<sup>th</sup> ACM-SIAM Symposium on Discrete Algorithms 2002 (SODA'02).</li> </ul>

## JOURNAL PUBLICATIONS

J26	Pratiksha Thaker, Mihai Buidu, Parikshit Gopalan, Udi Wieder, Matei Zaharia. Overlook: Differentially private exploratory visualization for big data. Under review.
J25	Parikshit Gopalan, Amir Yehudayoff. Concentration for Limited Independence via Inequalities for the Elementary Symmetric Polynomials. Theory of Computing 16: 1-29 (2020)
J24	Parikshit Gopalan, Daniel M. Kane, Raghu Meka. Pseudorandomness via the Discrete Fourier Transform. SIAM J. Comput. 47(6): 2451-2487 (2018)
J23	Parikshit Gopalan, Noam Nisan, Tim Roughgarden. Public Projects, Boolean Functions, and the Borders of Border's Theorem. ACM Trans. Economics and Comput. 6(3-4): 18:1-18:21 (2018)

J22	<ul> <li>Boaz Barak, Parikshit Gopalan, Johan Håstad, Raghu Meka, Prasad Raghavendra and David Steurer.</li> <li>Making the Long code shorter.</li> <li>SIAM Journal of Computing 44(5), 2015 (special issue for FOCS'2012).</li> </ul>
J21	Parikshit Gopalan. Constructing Ramsey graphs from Boolean function representations. Combinatorica $34(2)$ , 2014.
J20	Parikshit Gopalan, Cheng Huang, Bob Jenkins and Sergey Yekhanin. Explicit Maximally Recoverable Codes With Locality. <i>IEEE Transactions on Information Theory</i> 60(9), 2014.
J19	Parikshit Gopalan. A Fourier-Analytic Approach to Reed-Muller Decoding. IEEE Transactions on Information Theory 59(11), 2013.
J18	Parikshit Gopalan, Raghu Meka, Omer Reingold and David Zuckerman. Pseudorandom Generators for Combinatorial Shapes. SIAM Journal of Computing $42(3)$ , 2013.
J17	<ul> <li>Parikshit Gopalan, Cheng Huang, Huseyin Simitci and Sergey Yekhanin.</li> <li>On the Locality of Codeword Symbols.</li> <li><i>IEEE Transactions on Information Theory 58(11), 2012.</i></li> <li><b>2014 IEEE Communication Society &amp; Information Theory Society Joint Paper Prize.</b></li> </ul>
J16	Parikshit Gopalan, Raghu Meka and Omer Reingold. DNF sparsification and a faster deterministic counting algorithm. Computational Complexity $22(2)$ , 2013. (special issue for CCC'12).
J15	Parikshit Gopalan, Venkatesan Guruswami and Prasad Raghavendra. List decoding Tensor products and Interleaved codes. SIAM Journal of Computing (SICOMP) 40(5), 2011.
J14	Zeev Dvir, Parikshit Gopalan and Sergey Yekhanin. Matching Vector Codes. SIAM Journal of Computing (SICOMP) 40(4), 2011.
J13	Parikshit Gopalan, Rocco Servedio, Ryan O'Donnell, Amir Shpilka and Karl Wimmer. Testing Fourier dimensionality and sparsity. SIAM Journal of Computing (SICOMP) 40(4), 2011.
J12	Parikshit Gopalan, Shachar Lovett and Amir Shpilka. On the complexity of Boolean functions in different characteristics. Computational Complexity (CC) 19(2), 2010 (special issue for CCC'09).
J11	Anna Gál and Parikshit Gopalan. Lower Bounds on Streaming Algorithms for Approximating the Length of the Longest Increasing Subsequence. SIAM Journal of Computing (SICOMP) 39(8), 2010.

J10	Ilias Diakonikolas, Parikshit Gopalan, Ragesh Jaiswal, Rocco Servedio and Emanuele Viola. Bounded independence fools halfspaces. SIAM Journal of Computing (SICOMP) 39(8), 2010.
J9	Parikshit Gopalan and Venkatesan Guruswami. Hardness Amplification within NP against Deterministic Algorithms. Journal of Computer & System Sciences (JCSS) 77(1), 2010 (special issue to celebrate Richard Karp's Kyoto Prize).
J8	Parikshit Gopalan, Subhash Khot and Rishi Saket. Hardness of Reconstructing Multivariate Polynomials over Finite Fields. SIAM Journal of Computing (SICOMP) 39(6), 2010 (special issue for FOCS'07).
J7	Vitaly Feldman, Parikshit Gopalan, Subhash Khot and Ashok K. Ponnuswami. On Agnostically Learning Parities, Monomials and Halfspaces. SIAM Journal of Computing (SICOMP) 39(2), 2009 (special issue for FOCS'06).
J6	Parikshit Gopalan, Phokion Kolaitis, Elitza Maneva and Christos Papadim- itriou. Connectivity of Boolean Satisfiability: Computational and Structural Dichotomies. SIAM Journal of Computing (SICOMP) 38(6), 2009.
J5	Saugata Basu, Nayantara Bhatnagar, Parikshit Gopalan and Richard J. Lipton. Polynomials that Sign Represent Parity and Descartes' Rule of Signs. Computational Complexity (CC) 17(3), 2008.
J4	Parikshit Gopalan. Query-Efficient Algorithms for Polynomial Interpolation over Composites. SIAM Journal of Computing (SICOMP) 38(3), 2008.
J3	Parikshit Gopalan, Venkatesan Guruswami and Richard J. Lipton. Algorithms for Modular Counting of Roots of Multivariate Polynomials. Algorithmica 50(4), 2008 (special issue for LATIN'06).
J2	Parikshit Gopalan, Howard Karloff, Aranyak Mehta, Milena Mihail and Nisheeth Vishnoi. Caching with Expiration Times for Internet Applications. Internet Mathematics 2(2), 2005.
J1	Nayantara Bhatnagar, Parikshit Gopalan and Richard J. Lipton. Symmetric Polynomials over $\mathbb{Z}_m$ and Simultaneous Communication Protocols. Journal of Computer & System Sciences 72(2), 2006 (special issue for FOCS'03).

## Selected Invited Talks

- IAS Princeton, TCSDM seminar. April 2022.
- Harvard Theory Seminar. March 2022.
- TOC4fairness seminar. November 2021.
- Harvard CS Colloqium. November 2018.

- Stanford Computer Science Colloquium. March 2015.
- U C Berkeley Computer Science Colloquium. February 2015.
- Tutorial on *Erasure Coding for Distributed Data Storage* in the Information Theory Bootcamp at the Simons Institute, January 2015.
- Workshop on Computational Complexity, Banff Research Center, Canada. July 2013.
- Plenary talk at Workshop on Mathematics of Information-Theoretic Cryptography, Lorentz center, University of Leiden, Netherlands. May 2013.
- Institute for Advanced Study (IAS), Princeton, Theory Seminar. April 2012.
- Workshop on Expanders and Derandomization, Institut Henri Poincare, March 2011.
- Microsoft Research, New England, Colloqium, May 2009.
- ARC Colloqium, Georgia Tech, May 2008.
- Plenary speaker, Lipton Theory Symposium, Georgia Tech, April 2008.

## Patents

- Erasure coding of data within a group of storage units based on connection charactetristics. *Patent filed 2015.*
- Flexible erasure coding with enhanced local protection group structures. Patent filed 2015.
- Extended lifetime memory. *Patent filed 2014.*
- Erasure coding across multiple zones and subzones. Patent filed 2014.
- Erasure coding across multiple zones. Patent filed 2013.
- Self identifying memory errors. Patent filed 2013.
- Message storage in memory blocks using codewords. Patent filed 2013.
- Local erasure codes for data storage. *Patent filed 2013.*
- Writing memory blocks using codewords. Patent filed 2012
- Cloud Data Storage Using Redundant Encoding. Patent filed 2011.
- A method of obtaining data samples from a data stream and of estimating the sortedness of the data stream based on the samples. *Patent filed 2006.*

PROFESSIONAL SERVICE

Associate Editor for the IEEE Transactions on Information Theory (March 2017- Aug 2018).

### PROGRAM COMMITTEES

- Foundations of Responsible Computing 2023 (FoRC'23).
- International Colloqium on Automata, Languges and Programming 2023 (ICALP'23).
- International Symposium on Information Theory 2021 (ISIT'21).
- International Workshop on Randomization and Computation 2020 (RANDOM'20).
- International Symposium on Information Theory 2018 (ISIT'18).
- 50<sup>th</sup> ACM Symposium on Theory of Computing 2018 (STOC'18).
- International Colloqium on Automata, Languges and Programming 2017 (ICALP'17).
- 48<sup>th</sup> ACM Symposium on Theory of Computing 2016 (STOC'16).
- International Symposium on Information Theory 2015 (ISIT'15).
- Computational Complexity Conference 2015 (CCC'15).
- 6<sup>th</sup> Innovations in Theoretical Computer Science conference 2015 (ITCS'15).
- 18<sup>th</sup> Intl. Workshop on Randomization and Computation 2013 (RANDOM'13).
- 44<sup>th</sup> ACM Symposium on Theory of Computing 2012 (STOC'12).
- $42^{nd}$  ACM Symposium on Theory of Computing 2010 (STOC'10).
- 20<sup>th</sup> ACM-SIAM Symposium on Discrete Algorithms 2010 (SODA'10).
- 14<sup>th</sup> Intl. Workshop on Randomization and Computation 2009 (RANDOM'09).
- Conference on Learning Theory 2009 (COLT'09).
- Local Arrangements Committee for CCC'13, Palo Alto CA.

Refereeing for Journals

- SIAM Journal of Computing (SICOMP).
- Computational Complexity (CC).
- Theory of Computing (ToC).
- IEEE Transactions on Information Theory (ITIT).
- Machine Learning Journal (MLJ).
- Journal of Machine Learning Research (JMLR).
- Foundations of Computational Mathematics (FoCM).
- Combinatorics, Probability and Computing (CPC).
- Information Processing Letters (IPL).

#### REVIEWING FOR CONFERENCES

# NeuRIPS, ICML, ICLR, FOCS, STOC, SODA, CCC, Random, ICALP, COLT, ISIT, ITW, LATIN, MICRO.

TEACHING EXPERIENCE

 INSTRUCTOR University of California, Berkeley. Fall'10. Coding Theory. Graduate course, 15 students.
 INSTRUCTOR University of Washington, Spring'07. Introduction to Formal Methods in Computer Science. Undergraduate course, 54 students. INTERNS MENTORED

- Yi Wu, Carnegie Mellon University, now at Google. Summer 2009.
- Raghu Meka, University of Texas at Austin, now at UCLA. Summer 2010.
- Yuan Zhou, Carnegie Mellon University, now at UIUC. Summer 2012.
- Abhishek Bhowmick, University of Texas at Austin. Summer 2013.
- Li-Yang Tan, Columbia University, now at Stanford University. Summer 2014.
- Vatsal Sharan, Stanford University, now at USC. Summer 2017.
- Michael Kim, Stanford University, currently Miller fellow at UC Berkeley. Fall 2017.
- Roie Levin, CMU. Summer 2019.
- Shivam Garg, Stanford. Summer 2021.
- Mihir Singhal, MIT. Summer 2021.
- Lunjia Hu, Stanford. Summer 2022.

Programming skills: Java, C, Python, Javascript/Typescript.