

# Anand D. Sarwate

# Curriculum Vitæ

## CONTACT INFORMATION

Assistant Professor

Department of Electrical and Computer Engineering  
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## RESEARCH INTERESTS

I am broadly interested in statistical algorithms and methods applied to problems in distributed systems, communications, and privacy and security.

## EDUCATION

- 1/06–7/08      **University of California, Berkeley**, (Berkeley, California USA)  
Ph.D., Electrical Engineering and Computer Sciences (awarded 12/2008)  
Designated Emphasis in Communication, Computation and Statistics  
Thesis: *Robust and adaptive communication under uncertain interference*  
Advisor: Professor Michael Gastpar
- 8/02–12/05      **University of California, Berkeley**, (Berkeley, California USA)  
M.S., Electrical Engineering and Computer Sciences (awarded 12/2005)  
Thesis : *Observation uncertainty in Gaussian sensor networks*  
Advisor: Professor Michael Gastpar
- 9/97–6/02      **Massachusetts Institute of Technology**, (Cambridge, Massachusetts USA)  
B.S., Electrical Science and Engineering (awarded 6/2002)  
B.S., Mathematics (awarded 6/2002)  
Minors in Music and Theater Arts

## EMPLOYMENT

- 1/14–present      **Rutgers, The State University of New Jersey**, (Piscataway, New Jersey USA)  
*Assistant Professor*
- 10/11–12/13      **Toyota Technological Institute at Chicago**, (Chicago, Illinois USA)  
*Research Assistant Professor*
- 9/08–9/11      **University of California, San Diego**, (La Jolla, California USA)  
*Postdoctoral Researcher*  
Supervisors: Professors Alon Orlitsky, Tara Javidi, and Young-Han Kim

## AWARDS AND HONORS

- A. Walter Tyson Assistant Professor Award, Rutgers School of Engineering, 2018

NSF CAREER Award, 2015

IEEE Senior Member

NIPS Reviewer Award, 2013

Demetri Angelakos Memorial Achievement Award, UC Berkeley Department of EECS, 2008

Samuel Silver Memorial Scholarship Award, UC Berkeley Department of EECS, 2007

National Defence Science and Engineering Graduate Fellowship, 2002–2005

MIT : Laya and Jerome B. Wiesner Student Art Award, Joseph Everingham Award (Theater), Philip Lowe Memorial Award (Music)

## RESEARCH SUPPORT

- NSF CCF-1910110 : \$499,976.00, 10/1/2019–9/30/2022  
**CIF: Small: ESTRELLA: Exploiting Structure in Tensors for Representation, Estimation, and Limits of Learning Algorithms**  
PI: Anand D. Sarwate, Co-PI: Waheed Bajwa (Rutgers)  
This project pursues a comprehensive theory to simplify the measurement, storage, and statistical modeling of tensor-structured data.
- NSF CCF-1909468: \$250,000.00, 10/1/2019–9/30/2022  
**CIF: Small: Collaborative Research: Between Shannon and Hamming**  
PI: Anand D. Sarwate, Co-PI: Michael Langberg (U. Buffalo)  
This proposal studies fundamental coding strategies communication over channels in which the interference lies between the average and worst-case models.
- NSF SaTC-1617849: \$500,000.00, 9/1/2016–8/31/2020  
**TWC: Small: PERMIT: Privacy-Enabled Resource Management for IoT Networks**  
PI: Anand D. Sarwate, Co-PI: Narayan Mandayam  
This proposal studies how privacy, utility, and bandwidth affect each other in networked data collection and information processing systems.
- DARPA/Navy N66001-15-C-4070: \$1,013,723, 3/15/2015–3/14/2020  
**Jana: Ensuring Secure, Private and Flexible Data Access**  
PI: David Archer (Galois, Inc.), subcontract to Rutgers (PI: Rebecca Wright, co-PIs: Anand D. Sarwate, David Cash)  
This project is about building a secure database system that uses secure multiparty computing and privacy-preserving algorithms to hold and process queries on data held by multiple parties.
- NIH 1R01DA040487-01A1: \$692,575, 07/01/2015–04/30/2020  
**COINSTAC: Decentralized, Scalable Analysis of Loosely Coupled Data**  
PI: Vince Calhoun (Georgia State), subcontract to Rutgers (PI: Anand D. Sarwate)  
This proposal is to develop a system for automated and privacy-sensitive statistical

analyses of data from neuroimaging researchers studying the same condition at different sites.

- NSF CCF-1453432: \$540,000.00, 7/1/2015–6/30/2020  
**CAREER: Privacy-preserving learning for distributed data**  
PI: Anand D. Sarwate  
This proposal develops key design principles for making practical privacy-preserving distributed learning algorithms and validate them in collaboration with neuroimaging researchers. The results will identify new challenges for information processing and machine learning in general distributed systems.
- NSF CCF-1525276: \$160,000.00, 9/1/2015–8/31/2017  
**CIF: Small: Active data screening for efficient feature learning**  
PI: Waheed Bajwa, Co-PI: Anand D. Sarwate  
This proposal develops methods for screening samples to use for dictionary learning algorithms to balance representation accuracy and computational efficiency.
- Verisign Gift: \$25,000  
PIs: Rebecca Wright, Anand D. Sarwate Gift through DIMACS Center to work on applied and theoretical privacy.
- DHS Subcontract from CICCADA: \$125,000, 10/1/2015–6/30/2016  
PIs: Rebecca Wright, Anand D. Sarwate  
**DPAD: Differentially Private Anomaly Detection**  
This work seeks to understand how and when we can safely detect anomalies in private data.
- ARL CTA on Robotics: \$125,526, 4/16/2014–4/15/2015  
Subaward from General Dynamics to Rutgers ( PI: Waheed Bajwa, co-PIs: Athina Petropulu, Anand Sarwate)  
**Active Feature Learning and Classifier Training for Object Recognition**  
This work was to develop active learning approaches for feature learning for object recognition in rich data such as video. Subaward from General Dynamics.
- NSF CCF-1218331: \$208,426, 9/1/2012–4/30/2014  
**CIF: Small: Collaborative Research: Inference by social sampling.** This work investigates communication and networking paradigms that can enable a network of individual agents to collaboratively estimate distributions over high dimensional spaces, even when individual observations are severely limited in accuracy, space, or time. PI: Tara Javidi (UCSD), Co-PI: Anand D. Sarwate: \$208,426 (to Rutgers)
- AcademyHealth EDM Forum: \$5,000  
PI: Xiaoqian Jiang (UCSD), co-PIs: Anand D. Sarwate (TTI-Chicago), Lucila Ohno-Machado (UCSD)  
**Review of Technologies to Protect Patient Privacy When Sharing Data for Comparative Effectiveness Research**  
Commissioned paper for a systematic review of privacy-preserving methods for sharing data for medical research.

## PREPRINTS

- [1] D. M. Bittner, A. E. Brito, M. Ghassemi, S. Rane, A. D. Sarwate, and R. N. Wright, “Differentially private online active learning: Theory and practice,” *under review at the Journal of Privacy and Confidentiality*, available on request 2019.
- [2] H. Imtiaz, J. Mohammadi, and A. D. Sarwate, “Distributed differentially private computation of functions with correlated noise,” ArXiv, Tech. Rep. arXiv:1904.10059 [cs.LG], April 2019. [Online]. Available: <https://arxiv.org/abs/1904.10059>
- [3] M. Ghassemi, Z. Shakeri, A. D. Sarwate, and W. U. Bajwa, “Learning mixtures of separable dictionaries for tensor data: Analysis and algorithms,” ArXiv, Tech. Rep. arXiv:1903.09284 [cs.LG], March 2019. [Online]. Available: <https://arxiv.org/abs/1903.09284>
- [4] K. E. Nikolakakis, D. S. Kalogerias, and A. D. Sarwate, “Predictive learning on sign-valued hidden Markov trees,” ArXiv, Tech. Rep. arXiv:1812.04700 [stat.ML], December 2018. [Online]. Available: <https://arxiv.org/abs/1812.04700>
- [5] B. K. Dey, S. Jaggi, M. Langberg, and A. D. Sarwate, “The benefit of a 1-bit jump-start, and the necessity of stochastic encoding, in jamming channels,” ArXiv, Tech. Rep. arXiv:1602.02384 [cs.IT], February 2016. [Online]. Available: <http://arxiv.org/abs/1602.02384>
- [6] A. D. Sarwate and M. Gastpar, “Relaxing the Gaussian AVC,” ArXiv, Tech. Rep. arXiv:1204.2587v1 [cs.IT], September 2012, under revision. [Online]. Available: <http://arxiv.org/abs/1209.2755>

## JOURNAL

- [1] T. Hazan, F. Orabona, A. D. Sarwate, S. Maji, and T. Jaakkola, “High dimensional inference with random maximum a-posteriori perturbations,” *IEEE Transactions on Information Theory*, vol. 65, no. 10, pp. 6539–6560, October 2019. [Online]. Available: <http://dx.doi.org/10.1109/TIT.2019.2916805>
- [2] B. Baker, A. Abrol, R. F. Silva, E. Damaraju, A. D. Sarwate, V. D. Calhoun, and S. M. Plis, “Decentralized temporal independent component analysis: Leveraging fMRI data in collaborative settings,” *NeuroImage*, vol. 186, pp. 557–569, February 2019. [Online]. Available: <http://dx.doi.org/10.1016/j.neuroimage.2018.10.072>
- [3] H. Imtiaz and A. D. Sarwate, “Distributed differentially-private algorithms for matrix and tensor factorization,” *IEEE Journal of Selected Topics in Signal Processing*, vol. 12, no. 6, pp. 1449–1464, December 2018. [Online]. Available: <http://dx.doi.org/10.1109/JSTSP.2018.2877842>
- [4] K. Kalantari, L. Sankar, and A. D. Sarwate, “Robust privacy-utility tradeoffs under differential privacy and Hamming distortion,” *IEEE Transactions on Information Forensics and Security*, vol. 13, no. 11, pp. 2816–2830, November 2018. [Online]. Available: <http://dx.doi.org/10.1109/TIFS.2018.2831619>
- [5] Z. Shakeri, A. D. Sarwate, and W. U. Bajwa, “Identifiability of Kronecker-structured dictionaries for tensor data,” *IEEE Journal of Selected Topics in Signal Processing*, vol. 12, no. 5, pp. 1047–1062, October 2018. [Online]. Available: <http://dx.doi.org/10.1109/JSTSP.2018.2838092>
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- [9] J. Ming, E. Verner, A. Sarwate, R. Kelly, C. Reed, T. Kahleck, R. Silva, S. Panta, J. Turner, S. Plis, and V. Calhoun, "COINSTAC: Decentralizing the future of brain imaging analysis," *F1000Research*, vol. 6, no. 1512, August 2017. [Online]. Available: <http://dx.doi.org/10.12688/f1000research.12353.1>
- [10] N. D. Goldstein and A. D. Sarwate, "Privacy, security, and the public health researcher in the era of electronic health record research," *Online Journal of Public Health Informatics*, vol. 8, no. 3, p. e207, December 2016. [Online]. Available: <http://dx.doi.org/10.5210/ojphi.v8i3.7251>
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- [16] K. Chaudhuri, A. D. Sarwate, and K. Sinha, "A near-optimal algorithm for differentially-private principal components," *Journal of Machine Learning Research*, vol. 14, pp. 2905–2943, September 2013. [Online]. Available: <http://jmlr.org/papers/volume14/chaudhuri13a/chaudhuri13a.pdf>
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- [25] A. D. Sarwate and M. Gastpar, “A little feedback can simplify sensor network cooperation,” *IEEE Journal of Selected Areas in Communication*, vol. 28, no. 7, pp. 1159–1168, September 2010. [Online]. Available: <http://dx.doi.org/10.1109/JSAC.2010.100920>
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- [27] K. Eswaran, A. D. Sarwate, A. Sahai, and M. Gastpar, “Zero-rate feedback can achieve the empirical capacity,” *IEEE Transactions on Information Theory*, vol. 56, no. 1, pp. 25–39, January 2010. [Online]. Available: <http://dx.doi.org/10.1109/TIT.2009.2034779>
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## BOOK CHAPTER

- [1] Z. Shakeri, A. D. Sarwate, and W. U. Bajwa, “Sample complexity bounds for dictionary learning from vector- and tensor-valued data,” in *Information-Theoretic Methods in Data Science*, M. Rodrigues and Y. C. Eldar, Eds. Cambridge, UK: Cambridge University Press, to appear, 2019.

## EXTENDED VERSIONS OF CONFERENCE PAPERS

- [1] G. R. Kurri, V. M. Prabhakaran, and A. D. Sarwate, “Coordination using individually shared randomness,” ArXiv, Tech. Rep. arXiv:1805.03193 [cs.IT], May 2018. [Online]. Available: <https://arxiv.org/abs/1805.03193>
- [2] T. Li, B. K. Dey, S. Jaggi, M. Langberg, and A. D. Sarwate, “Quadratically constrained channels with causal adversaries,” ArXiv, Tech. Rep. arXiv:1805.03319 [cs.IT], May 2018. [Online]. Available: <https://arxiv.org/abs/1805.03319>
- [3] Y. Zhang, S. Vatedka, S. Jaggi, and A. Sarwate, “Quadratically constrained myopic adversarial channels,” ArXiv, Tech. Rep. arXiv:1801.05951 [cs.IT], January 2018. [Online]. Available: <https://arxiv.org/abs/1801.05951>
- [4] M. Ghassemi, Z. Shakeri, A. D. Sarwate, and W. U. Bajwa, “STARK: Structured dictionary learning through rank-one tensor recovery,” ArXiv, Tech. Rep. arXiv:1711.04887 [stat.ML], November 2017. [Online]. Available: <https://arxiv.org/abs/1711.04887>
- [5] S. Song, K. Chaudhuri, and A. D. Sarwate, “Learning from data with heterogeneous noise using SGD,” ArXiv, Tech. Rep. arXiv:1412.5617 [cs.LG], December 2014. [Online]. Available: <http://arxiv.org/abs/1412.5617>
- [6] A. Chatterjee, A. D. Sarwate, and S. Vishwanath, “Generalized opinion dynamics from local optimization rules,” ArXiv, Tech. Rep. arXiv:1409.7614 [math.DS], September 2014. [Online]. Available: <http://arxiv.org/abs/1409.7614>
- [7] F. Orabona, T. Hazan, A. D. Sarwate, and T. Jaakkola, “On measure concentration of random maximum a-posteriori perturbations,” ArXiv, Tech. Rep. arXiv:1310.4227 [cs.LG], October 2014. [Online]. Available: <http://arxiv.org/abs/1310.4227>
- [8] S. Sabato, A. D. Sarwate, and N. Srebro, “Auditing: Active learning with outcome-dependent query costs,” ArXiv, Tech. Rep. arXiv:1306.2347 [cs.LG], June 2013. [Online]. Available: <http://arxiv.org/abs/1306.2347>

## CONFERENCE PAPERS

- [1] M. Ghassemi, Z. Shakeri, W. U. Bajwa, and A. D. Sarwate, “Sample complexity bounds for low-separation-rank dictionary learning,” in *Proceedings of the 2019 IEEE International Symposium on Information Theory (ISIT)*, Paris, France, 7–12 July 2019.
- [2] B. K. Dey, S. Jaggi, M. Langberg, A. D. Sarwate, and C. Wang, “The interplay of causality and myopia in adversarial channel models,” in *Proceedings of the 2019 IEEE International Symposium on Information Theory (ISIT)*, Paris, France, 7–12 July 2019.
- [3] H. Imtiaz and A. D. Sarwate, “Distributed differentially private canonical correlation analysis,” in *Proceedings of the 44th IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Brighton, UK, 12–17 May 2019, pp. 3112–3116. [Online]. Available: <https://dx.doi.org/10.1109/ICASSP.2019.8683252>
- [4] K. Nikolakakis, D. Kalogerias, and A. D. Sarwate, “Learning tree structures from noisy data,” in *Proceedings of the Twenty-Second International Conference on Artificial Intelligence and Statistics (AISTATS)*, ser. Proceedings of Machine Learning Research, K. Chaudhuri and R. Salakhutdinov, Eds. Naha, Okinawa, Japan: PMLR, 16–18 April 2019, vol. 89, pp. 1771–1782. [Online]. Available: <http://proceedings.mlr.press/v89/nikolakakis19a.html>

- [5] D. Bittner, A. D. Sarwate, and R. Wright, “Using noisy binary search for differentially private anomaly detection,” in *Proceedings of the 2nd International Symposium on Cyber Security Cryptography and Machine Learning (CSCML)*, ser. Lecture Notes in Computer Science, I. Dinur, S. Dolev, and S. Lodha, Eds. Springer, June 2018, vol. 10879, pp. 20–37. [Online]. Available: <https://dx.doi.org/10.1007/978-3-319-94147-9-3>
- [6] G. R. Kurri, V. M. Prabhakaran, and A. D. Sarwate, “Coordination using individually shared randomness,” in *Proceedings of the 2018 IEEE International Symposium on Information Theory (ISIT)*, Vail, Colorado, USA, 17–22 June 2018, pp. 2550–2554. [Online]. Available: <https://dx.doi.org/10.1109/ISIT.2018.8437316>
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- [9] H. Imtiaz and A. D. Sarwate, “Improved algorithms for differentially private orthogonal tensor decomposition,” in *Proceedings of the 43rd IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Calgary, AB, Canada, 15–20 April 2018, pp. 2201–2205. [Online]. Available: <https://dx.doi.org/10.1109/ICASSP.2018.8461303>
- [10] M. Ghassemi, N. Goela, and A. D. Sarwate, “Global optimality in inductive matrix completion,” in *Proceedings of the 43rd IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Calgary, AB, Canada, 15–20 April 2018, pp. 2226–2230. [Online]. Available: <https://dx.doi.org/10.1109/ICASSP.2018.8462250>
- [11] S. Xiong, A. D. Sarwate, and N. B. Mandayam, “Defending against packet-size side-channel attacks in IoT networks,” in *Proceedings of the 43rd IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Calgary, AB, Canada, 15–20 April 2018, pp. 2027–2031. [Online]. Available: <https://dx.doi.org/10.1109/ICASSP.2018.8461330>
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- [13] Z. Shakeri, A. D. Sarwate, and W. U. Bajwa, “Identification of Kronecker-structured dictionaries: An asymptotic analysis,” in *Proceedings of the 7th IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP)*, Curaçao, Netherlands Antilles, 10–13 December 2017, pp. 1–5. [Online]. Available: <http://dx.doi.org/10.1109/CAMSAP.2017.8313163>
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- [16] B. Liu, C. Wen, A. D. Sarwate, and M. M. Dehnavi, “A unified optimization approach for sparse tensor operations on GPUs,” in *Proceedings of the 2017 IEEE International Conference on Cluster Computing (CLUSTER)*, Honolulu, HI, USA, 5–8 September 2017, pp. 47–57. [Online]. Available: <http://dx.doi.org/10.1109/CLUSTER.2017.75>
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## THESES

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## TUTORIALS

12/17                    *Differentially Private Machine Learning: Theory, Algorithms, and Applications* (with K. Chaudhuri), tutorial at the 2017 Neural Information Processing Systems (NIPS).

12/14                    *Differential privacy and machine learning* (with K. Chaudhuri), tutorial at the 2014 IEEE Workshop on Information Forensics and Security (WIFS)

## INVITED WORKSHOPS

6/19                    Machine Learning in Science and Engineering (MLSE), Georgia Tech

6/18                    Differential Privacy Meets Multi-Party Computation (DPMPC) Workshop, Hariri Institute for Computing, Boston University

5/18                    BIRS Workshop: Mathematical Foundations of Data Privacy

2/10–2/18            ITA Workshop, UC San Diego

1/18                    “Hacking Deep Learning”: Workshop at Bar-Ilan University’s Center for Research in Applied Cryptography and Cyber Security

8/17                    DIMACS Workshop on Distributed Optimization, Information Processing, and Learning

5/17                    Simons Institute for Theoretical Computer Science Workshop on Data Privacy, Berkeley, CA

4/17                    DIMACS/Northeast Big Data Hub Workshop on Privacy and Security for Big Data

9/16                    Google Learning, Privacy, and Mobile Data Workshop, Seattle, WA

5/15                    Big Data Analytics for Health Care: Differential Privacy, University of Delaware

- 3/15 BIRS Workshop: Between Shannon and Hamming: Network Information Theory and Combinatorics
- 12/13 Simons Institute for Theoretical Computer Science Workshop on Big Data and Differential Privacy
- 10/12 DIMACS Workshop on Recent Work on Differential Privacy across Computer Science
- 10/11–10/12 iDASH Privacy Workshop, UC San Diego
- 10/11 BIRS Workshop on Information theory and statistics for large alphabets
- 5/10 2010 IEEE Communication Theory Workshop
- 8/09 American Institute of Mathematics Workshop on Permanents and modeling probability distributions

#### RECENT TALKS

- 6/19 *Differentially Private Learning for Collaborative Research Systems*, Machine Learning in Science and Engineering (MLSE), Atlanta, GA
- 5/19 *Between Shannon and Hamming: the impact of delay*, BLISS Seminar, UC Berkeley
- 2/19 *Coordination from Alon using individually shared randomness*, AlonFest, UC San Diego
- 2/19 *Learning Mixture of Separable Dictionaries for Tensor Data*, ITA Workshop, UC San Diego
- 11/18 *Differential privacy as an enabler for collaborative research*, The Wright Stuff Workshop, DIMACS
- 10/18 *Learning latent structures under differential privacy*, AMS Sectional Meeting, Ann Arbor, MI
- 9/18 *Using differential privacy with decentralized data*, Computer Science Department Colloquium, Rutgers University
- 6/18 *Jana: Private Data as a Service*, Differential Privacy Meets Multi-Party Computation (DPMPC) Workshop, Hariri Institute for Computing, Boston University
- 2/18 *Learning structured dictionaries for multidimensional data*, ITA Workshop, UC San Diego
- 1/18 *Differential Privacy and Collaborative Learning*, Bar-Ilan University Cyber Center Workshop on “Hacking Deep Learning”
- 7/17 *Between Shannon and Hamming: The Impact of Delay*, École Polytechnique Fédérale de Lausanne (EPFL), and Technical University of Vienna (TU-Wien)
- 5/17 *Challenges in Privacy-Preserving Learning for Collaborative Research Consortia*, Simons Institute for Theoretical Computer Science Planning Workshop on Data Privacy
- 4/17 *Privacy Protections as an Incentive for Collaborative Research on Human Health*, DIMACS/Northeast Big Data Hub Workshop on Privacy and Security for Big Data
- 4/16, 5/16 *Differential Privacy in Distributed Systems*, Harvard University EE Seminar, CUNY Graduate Center

- 11/15            *Privacy-Protecting Technologies for Collaborative Research*, Christiana Care CME Series
- 4/15, 6/15      *Learning From Distributed Private Data: Algorithms and Applications*, NYU-Poly (April), National Chiao Tung University (June)
- 5/15            *The role of differential privacy in collaborative healthcare research*, University of Delaware ACCEL Retreat
- 4/14            *Enabling collaborative research with privacy-preserving machine learning*, Mind Research Network
- 4/14            *Privacy-sensitive learning for medical data sharing*, Boston University

#### EDITORSHIPS

- 7/19–6/21      Associate Editor, *IEEE Transactions on Signal Processing*
- 12/14–12/18   Associate Editor, *IEEE Transactions on Signal and Information Processing over Networks*

#### PROFESSIONAL SERVICE

- 2017–2019      Machine Learning and Signal Processing Technical Committee, IEEE Signal Processing Society
- 1/15–2/19      Online Editor, IEEE Information Theory Society
- 2009–2014      Online Associate Editor, IEEE Information Theory Society
- 2007–2009      IEEE Information Theory Society Ad Hoc Committee on Online Content and Services
- 10/08–12/10   IEEE Information Theory Society Student Committee

#### CONFERENCE AND WORKSHOP ORGANIZATION

- 2019            Simons Institute Workshop on Privacy and the Science of Data Analysis (Chair)
- 2019            North American School on Information Theory (Technical Chair)
- 2018            IPAM Workshop on Algorithmic Challenges in Protecting Privacy for Biomedical Data
- 2016            Institut Henri Poincaré Program on the Nexus of Information and Computation Theories
- 2009–2013      Information Theory and Applications Workshop

#### PROGRAM COMMITTEES

- Neural Information Processing Systems 2019 (NeurIPS 2019): Area Chair
- NeurIPS 2019 Workshop on Privacy in Machine Learning (PriML 2019)
- CCS Workshop on Privacy Preserving Machine Learning (PPML 2019)
- International Conference on Machine Learning (ICML 2019): Area Chair



Workshop on the Theory and Practice of Differential Privacy (TPDP 2018)  
NeurIPS Workshop on Privacy Preserving Machine Learning, 2018  
26th European Signal Processing Conference (EUSIPCO 2018)  
19th IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC 2018)  
IEEE International Symposium on Information Theory (ISIT 2017–2019)  
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2017–2019)  
IEEE International Workshop on Machine Learning for Signal Processing (MLSP 2017)  
IEEE Global Conference on Signal and Information Processing (GlobalSIP 2017) Symposium on Control and Information Theoretic Approaches to Privacy and Security  
IEEE Information Theory Workshop (ITW 2015, 2017)  
IEEE International Conference on Distributed Computing in Sensor Networks (DCOSS 2012, 2013, 2015)  
Sixth International Conference on Information-Theoretic Security (ICITS 2012) - TPC  
IEEE Vehicular Technology Conference (VTC) 2011  
IEEE ICC Wireless Communications Symposium 2010

## PEER REVIEWING

Since January 2014, 41 journal manuscripts and 122 conference manuscripts reviewed.

IEEE Transactions : Information Theory, Signal Processing, Automatic Control, Communications, Wireless Communications, Vehicular Technology, Computational Biology and Bioinformatics, Parallel and Distributed Systems, Smart Grid, Network Science and Engineering, Signal and Information Processing over Networks

IEEE Journal of Selected Areas in Communication, IEEE Journal of Selected Topics in Signal Processing, IEEE Signal Processing Magazine, IEEE Signal Processing Letters, IEEE Communications Letters

Journal of Machine Learning Research (JMLR), Machine Learning

Journal of the American Statistical Association (JASA), Statistical Science

Journal of Privacy and Confidentiality

Bernoulli, Random Structures and Algorithms, Queueing Systems : Theory and Applications

Problems of Information Transmission, Entropy

IEEE/ACM Transactions on Networks, ACM Transactions on Sensor Networks, EURASIP Journal on Wireless Communications and Networking

AMS Mathematical Reviews

*Conferences* : ISIT (2007–2019), ITW (2008,2010,2013-2019), Globecom (2007, 2009), PIMRC (2007), ICC (2012), WiOpt (2015), ICASSP (2017–2019), GlobalSIP (2015–2017), MLSP (2017–2019), SPAWC (2018), EUSIPCO (2018), DCOSS (2015), CAMSAP (2017), AISTATS (2012, 2013, 2017–2019), NIPS (2012–2016), ICML (2012–2016), COLT (2011, 2012), STOC (2010), SODA (2015), CDC (2009,2012), ACC (2013), Infocom (2012)

UNIVERSITY SERVICE

2018–2019	Advisory Committee to DIMACS Director Search Committee
2016–Present	Health and Safety Committee, School of Engineering (Chair)
2015–2016	Strategic Planning Committee for Douglass Residential College, Rutgers

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