GAUTAM DASARATHY   CURRICULUM VITAE

CONTACT INFORMATION	Goldwater Center, Room 324	gautamd@asu.edu
	650 E Tyler Mall, Tempe, AZ - 85281	http://gautamdasarathy.com

RESEARCH INTERESTS

Machine learning, Statistics, Signal Processing, Networked Systems, and Information Theory

EDUCATION

Ph.D., Electrical Engineering,   2014
University of Wisconsin - Madison
Thesis: Data Efficient and Robust Algorithms for Reconstructing Large Graphs

M.S., Electrical Engineering,   May '10
University of Wisconsin - Madison

B.Tech., Electronics and Communication Engineering   May '08
VIT University, Vellore, Tamil Nadu, India
Graduated First Class with Distinction

PROFESSIONAL EXPERIENCE

Assistant Professor   2018 to Present
School of Electrical, Computer, and Energy Engineering
Arizona State University

Research Consultant   2023 to Present
Mitsubishi Electric Research Labs
Cambridge, MA

Post-Doctoral Fellow   2016-2018
Department of Electrical and Computer Engineering
Rice University
Host: Dr. Richard Baraniuk

Post-Doctoral Fellow   2014-2016
Machine Learning Department, School of Computer Science
Carnegie Mellon University
Host: Dr. Aarti Singh

HONORS AND AWARDS

- **Ira A. Fulton Schools of Engineering Top 5% Teaching Award**   2022
- **Distinguished Alumni Award 2022** for contributions to Research and Academia, VIT University   2022
- **IEEE Transaction on Haptics Best Application Paper Award** for the paper "A Multisensory Approach to present Phonemes as Language through a Wearable Device".   2022
- **Ira A. Fulton Schools of Engineering Top 5% Teaching Award**   2021
- **NSF Faculty Early Career Development Program (CAREER) Award**   2021
- **Ira A. Fulton Schools of Engineering Top 5% Teaching Award**   2020

- **NSF Award** for attending SIAM Conference on Applied Algebraic Geometry, Daejon, South Korea.   2015
- **Merit Scholarship** for Best Academic Performance at VIT University, Vellore, India.   Jul. '05
- **Merit Certificate** by Central Board of Secondary Education (CBSE), India being in the top 0.1% of the examinees in Physics in the All India Senior School Certificate Exam (AISSCE). Jul. '04

SELECTIVE
JOURNAL-LENGTH
CONFERENCES

1. Thaker, P. K., Malu, M., Rao, N., Dasarathy, G., *Maximizing and Satisficing in Multi-armed Bandits with Graph Information*, Neural Information Processing Systems (**NeurIPS**), Nov. '22

2. Rayas, A., Anguluri, R., Dasarathy, G., *Learning the Structure of Large Networked Systems obeying Conservation Laws*, Neural Information Processing Systems (NeurIPS), Nov. '22

3. Li, W. Dasarathy, G., Ramamurthy, K. N., Berisha, V., *A Label Efficient Two-Sample Test*. Uncertainty in Artificial Intelligence (UAI), Aug. '22

4. Ghoroghchian, N., Dasarathy, G., Draper, S., *Graph Community Detection from Coarse Measure-ments: Recovery Conditions for the Coarsened Weighted Stochastic Block Model*. International Conference on AI & Statistics (AISTATS), Apr. '21 (**Full oral, top ∼3% of submissions**)

5. Li, W., Dasarathy, G., Ramamurthy, K. N., Berisha, V., *Finding the Homology of Decision Boundaries with Active Learning*. Advances in Neural Information Processing Systems (NeurIPS), Dec. '20 (acceptance rate: 20.1%)

6. Janiczek, J., Thaker, P. K., Dasarathy, G., Edwards, C., Christensen, P., Jayasuriya, S., *Differentiable Programming for Hyperspectral Unmixing using a Physics-based Dispersion Model*. European Conference on Computer Vision (ECCV), Nov. '20

7. Dunkelberger, N., Sullivan, J., Bradley, J., Manickam, I., Dasarathy, G., Baraniuk, R., O'Malley, M. K., *A Multisensory Approach to Present Phonemes as Language Through a Wearable Haptic Device*. IEEE Transactions on Haptics, Jul. '20

8. LeJeune, D., Dasarathy, G., Baraniuk, R., *Thresholding Graph Bandits via GrAPL*. International Conference on Artificial Intelligence and Statistics (AISTATS), Palermo, Italy, Jun. '20

9. Li, W. Dasarathy, G., Berisha, V., *Regularization via Structural Label Smoothing*. International Conference on Artificial Intelligence and Statistics (AISTATS), Palermo, Italy, Jun. '20

10. Manickam, I., Lan, A., Dasarathy, G., Baraniuk, R., *IdeoTrace: A Framework for Ideology Tracing with a Case Study on the 2016 U.S. Presidential Election*. IEEE/ACM International Conference on Social Networks Analysis and Mining (ASONAM), Vancouver, Canada, Aug. '19. (**Full Paper, acceptance rate: 14%**)

11. Mousavi, A., Dasarathy, G., Baraniuk, R., *A Data-Driven and Distributed Approach to Sparse Signal Representation and Recovery*. International Conference on Learning Representations, New Orleans, LA, May. '19 (acceptance rate: 31%)

12. Aghazadeh, A., Spring, R., LeJeune, D., Dasarathy, G., Shrivastava, A., Baraniuk, R., *Ultra Large-Scale Feature Selection using Count-Sketches*. International Conference on Machine Learning, Stockholm, Sweden, Jul. '18 (acceptance rate: 25.1%)

13. Kandaswamy, K., Dasarathy, G., Oliva, J., Schneider, J., Poczos, B., *Multi-Fidelity Bayesian Optimisation with Continuous Approximations*. International Conference on Machine Learning, Sydney, Australia, Aug. '17 (acceptance rate: 25.5%)

14. Kandaswamy, K., Dasarathy, G., Schneider, J., Poczos, B., *The Multi-Fidelity Multi-Armed Bandit*. Advances in Neural Information Processing Systems, Barcelona, Spain, Dec. '16 (acceptance rate: 22.7%)

15. Kandaswamy, K., Dasarathy, G., Oliva, J., Schneider, J., Poczos, B., *Gaussian Process Bandit Optimization with Multi-fidelity Evaluations*. Advances in Neural Information Processing Systems, Barcelona, Spain, Dec. '16 (acceptance rate: 22.7%)

16. Dasarathy, G., Singh, A., Balcan, M. F., Park, J. H., *Active Learning Algorithms for Graphical Model Selection*. International Conference on Artificial Intelligence and Statistics (AISTATS), Cadiz, Spain, May'16
(**Full Oral Presentation, acceptance rate: 6.5%**)

17. Dasarathy, G., Nowak, R., Zhu, X., S^2*: An Efficient Graph Based Active Learning Algorithm with Application to Nonparametric Classification*. Conference on Learning Theory (COLT), Paris, France, July '15 (acceptance rate: 39.7%)

18. Eriksson, B., Dasarathy, G., Singh, A., Nowak R., *Active Clustering: Robust and Efficient Hierarchical Clustering using Adaptively Selected Similarities*. Artificial Intelligence and Statistics (AISTATS), Ft Lauderdale, FL, April '11

19. Eriksson, B., Dasarathy, G., Barford, P., Nowak R., *Toward the Practical Use of Network Tomography for Internet Topology Discovery*. IEEE International Conference on Computer Communications. San Diego, CA, Mar '10

JOURNAL PAPERS

1. Varghese, A., Pal, A., Dasarathy, G., *Transmission Line Parameter Estimation Under Non-Gaussian Measurement Noise*. IEEE Transactions on Power Systems, Sept. '22.

2. Sypherd, T., Diaz, M., Cava, J. K., Dasarathy, G., Kairouz, P., Sankar, L., *A Tunable Loss Function for Robust Classification: Calibration, Landscape, and Generalization*. IEEE Transactions on Information Theory (T-IT), Apr. '22

3. Dasarathy, G., Mossel, E., Nowak, R., Roch, S., *A Stochastic Farris Transform for Genetic Data under the Multispecies Coalescent with applications to Data Requirements*. Journal of Mathematical Biology, Apr. '22

4. Azimian, B., Biswas, R., Moshtagh, S., Pal, A., Tong, L., Dasarathy, G., *State and Topology Estimation for Unobservable Distribution Systems Using Deep Neural Networks*, IEEE Transactions on Instrumentation and Measurement, Apr. '22

5. Stalley, S., Wang, D., Dasarathy, G., Lipor, J., *A Graph-Based Approach to Boundary Estimation with Mobile Sensors*. IEEE Robotics and Automation Letters, Jan. '22

6. Solís, P., Dasarathy, G., Turaga, P., Vora, K. J., Sajja, A., Raaman, A., Lattus, R., *Understanding the Spatial Patchwork of Predictive Modeling of First Wave Pandemic Decisions by US Governors*. Geographical Review, Oct. '21

7. Berisha, V., Krantsevich, C., Hahn, P. R., Hahn, S., Dasarathy, G., Turaga, P., Liss, J., *Digital Medicine and the Curse of Dimensionality*, Nature Partner Journal Digital Medicine, Sept. '21

8. Anguluri, R., Dasarathy, G., Kosut, O., Sankar, L., *Grid Topology Identification with Hidden Nodes via Structured Norm Minimization*. IEEE Control Systems Letters, Jun. '21

9. Dunkelberger, N., Sullivan, J., Bradley, J., Manickam, I., Dasarathy, G., Baraniuk, R., O'Malley, M. K., *A Multisensory Approach to Present Phonemes as Language Through a Wearable Haptic Device*. IEEE Transactions on Haptics, Jul. '20
   (**IEEE Transaction on Haptics Best Application Award**)

10. Kandaswamy, K., Dasarathy, G., Oliva, J., Schneider, J., Poczos, B., *Multi-fidelity Gaussian Process Bandit Optimisation*. Journal of Artificial Intelligence Research (JAIR), Vol. 66, Sept. '19

11. Dasarathy, G., Nowak, R., Roch, S., *Data Requirement for Phylogenetic Inference from Multiple Loci: A New Distance Method.* IEEE/ACM Transactions on Computational Biology and Bioinformatics, Vol 12, Issue 2, April '15

12. Dasarathy, G., Shah, P., Bhaskar, B., Nowak, R., *Sketching Sparse Matrices, Covariances, and Graphs via Tensor Products.* IEEE Transactions of Information Theory, Vol 61, Issue 3, January '15

13. Eriksson, B., Dasarathy, G., Barford, P., Nowak R., *Efficient Network Tomography for Internet Topology Discovery.* IEEE/ACM Transactions on Networking, Vol 20, Issue 3, June '12

STANDARD
CONFERENCE
PAPERS

1. Rayas, A., Anguluri, R., Cheng, J., Dasarathy, G., *Differential Network Analysis of Networks that Obey Conservation Laws*, IEEE International Conference on Acoustics and Statistical Signal Processing (ICASSP), Jul. '23.

2. Malu, M., Dasarathy, G., Spanias, A., *Bayesian Optimization in High-Dimensional Spaces: A Brief Survey*, IEEE International Conference on Information, Intelligence, Systems, and Applications (IISA), Jul. '21

3. Thaker, P. K., Dasarathy, G., Nedich, A., *On the Sample Complexity and Optimization Landscape for Quadratic Feasibility Problems*, IEEE International Symposium on Information Theory (ISIT), Jun. '20

4. Sypherd, T., Diaz, M., Sankar, L., Dasarathy, G., *On the α-loss Landscape in the Logistic Model*, IEEE International Symposium on Information Theory (ISIT), Jun. '20

5. Vinci, G., Allen, G., and Dasarathy, G., *Functional connectivity graph estimation from nonsimultaneous calcium imaging recordings*, Computational and Systems Neuroscience (Cosyne), Denver, CO, USA, Mar. '20

6. Dasarathy, G., *Gaussian Graphical Model Selection from Size Constrained Measurements*. IEEE International Symposium on Information Theory (ISIT), Paris, France, Jul. '19

7. Wang, D., Lipor, J., Dasarathy, G., *Distance Penalized Active Learning via Markov Decision Processes*. IEEE Data Science Workshop, Minneapolis, MN, USA, Jun. '19

8. Dunkelberger, N., Sullivan, J., Bradley, J., Walling, N. P., Manickam, I., Dasarathy, G., Israr, A., Lau, F. W. Y., Klumb, K., Knott, B., Abnousi, F., Baraniuk, R., and O'Malley, M. K., *Conveying Language Through Haptics: A Multi-sensory Approach*. ACM International Symposium on Wearable Computers, Singapore, Oct. '18

9. Lipor, J., Dasarathy, G., *Quantile Search with Time-Varying Search Parameter*. Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, USA, Oct. '18

10. Mousavi, A., Dasarathy, G., Baraniuk, R., *DeepCodec: Adaptive Sensing and Recovery via Deep Convolutional Neural Networks.* Allerton Conference on Communication, Control, and Computing (Allerton), Monticello, IL, USA, Oct. '17

11. Dasarathy, G., Shah, P., Baraniuk, R., *Sketched Covariance Testing: A Compression-Statistics Tradeoff*. IEEE International Symposium of Information Theory (ISIT), Aachen, Germany, Jun. '17

12. Dasarathy, G., Rao, N., Baraniuk, R., *On Computational and Statistical Tradeoffs in Matrix Completion with Graph Information*. Signal Processing with Adaptive Sparse Representations (SPARS), Lisbon, Portugal, Jun. '17. (**Full Oral Presentation, acceptance rate: 23.4%**)

13. Dasarathy, G., Nowak, R., Roch, S., *New Sample Complexity Bounds for Phylogenetic Inference from Multiple Loci.* IEEE International Symposium on Information Theory (ISIT), Honolulu, HI, July '14

14. Dasarathy, G., Draper, S., *Upper and Lower Bounds on the Reliability of Content Identification.* International Zurich Seminar on Communications (S. D. Invited), Feb. '14

15. Dasarathy, G., Shah, P., Bhaskar, B., Nowak R., *Covariance Sketching.* 50th Annual Allerton Conference, Allerton House, Urbana-Champaign, IL (R. N. Invited), Oct. '12

16. Dasarathy, G., Draper, S., *On Reliability of Content Identification from Databases based on Noisy Queries.* IEEE International Symposium on Information Theory (ISIT), St. Petersburg, Russia, Aug. '11

NON-REFEREED CONFERENCE AND WORKSHOP PAPERS

1. Demirhan, U., Dasarathy, G., Zhang, J., *Distributed Edge Learning over Wireless Multiple Access Channels*. ICML Workshop on Coding Theory For Large-scale Machine Learning (CodML), Long Beach, CA, Jun. '19

2. Dasarathy, G., Draper, S., *Upper and Lower Bounds on the Reliability of Content Identification.* International Zurich Seminar on Communications (S. D. Invited), Feb. '14

3. Dasarathy, G., Shah, P., Bhaskar, B., Nowak R., *Sketching Sparse Covariance Matrices and Graphs.* NIPS workshop on Randomized Methods in Machine Learning, Lake Tahoe, NV, Dec. '13

4. Dasarathy, G., Shah, P., Bhaskar, B., Nowak R., *Covariance Sketching.* 50th Annual Allerton Conference, Allerton House, Urbana-Champaign, IL (R. N. Invited), Oct. '12

5. Dasarathy, G., Draper, S., *Reliability in Noisy Search.* UCSD Workshop on Information Theory and Applications, (S. D. Invited), Feb. '11

MANUSCRIPTS SUBMITTED

1. Vinci, G., Dasarathy, G., Allen, G., *Graph Quilting: Graphical Model Selection from Partially Observed Covariances*. Submitted to the Annals of Statistics.
Preprint available: https://arxiv.org/abs/1912.05573

MANUSCRIPTS UNDER PREPARATION

1. Zahin, A., Anguluri, R., Kosut, O., Sankar, L., Dasarathy, G., *Robust Model Selection of Non Tree-Structured Graphical Models*. To be submitted.
Preprint available at: https://arxiv.org/abs/2211.05690

2. Gattani, V., Dasarathy, G., Zhang, J., *Federated Learning from Compressive Measurements over Noisy Channels*. To be submitted.

3. **Thaker, P.**, Dasarathy, G., Nedić, A., *On the Sample Complexity and Optimization Landscape for Quadratic Feasibility Problems*. To be submitted to the IEEE Transactions on Information Theory.
Preprint available at: https://arxiv.org/abs/2002.01066

INTELLECTUAL PROPERTY

1. Janiczek, J., Jayasuriya, S., Dasarathy, G., Christensen, P., *Systems And Methods For Differentiable Programming For Hyperspectral Unmixing*. Provisional Patent Filed. 2021

2. Aghazadeh, A., Baraniuk, R., Dasarathy, G., Shrivastava, A., Spring, R. *A Feature Selection Algorithm For Subset Selection In Ultra-High Dimensions*. Provisional Patent Filed. 2019

INVITED PRESENTATIONS (INCLUDING STUDENTS)

1. Thaker, P. K., Malu, M., *Maximizing and Satisficing in Multi-armed Bandits with Graph Information.* Neural Information Processing Systems (NeurIPS), Dec. '22.

2. Rayas, A., *Learning the Structure of Large Networked Systems Obeying Conservation Laws*. Neural Information Processing Systems (NeurIPS), Dec. '22.

3. Li, W., *A Label Efficient Two-Sample Test*. Uncertainty in Artificial Intelligence, Aug '22.

4. *Interactive Machine Learning: Closing the Loop between Data Acquisition and Learning*. Guest Lecture in Sensors and Machine Learning at ASU ECEE, Nov. '21

5. *Optimizing Function on Graphs with Noisy Evaluations*. Invited Talk at INFORMS Annual Meeting. Sept. '21

6. *Sketching Sparse Matrices, Covariances, and Graphs*. Guest Lecture in Randomized Numerical Linear Algebra from Machine Learning. University of Michigan, Aug '21.

7. *Thresholding Graph Bandits via GrAPL*. INFORMS Annual Meeting. Virtual. Nov. '20

8. Janiczek, J., **Thaker, P.**, Dasarathy, G., Edwards, C., Christensen, P., *Differentiable Programming for Hyperspectral Unmixing using a Physics-based Dispersion Model*. European Conference on Computer Vision (ECCV), Virtual, Aug. '20 (acceptance rate: 26%)

9. ~ LeJeune, D., Dasarathy, G., Baraniuk, R., *Thresholding Graph Bandits via GrAPL*. International Conference on Artificial Intelligence and Statistics (AISTATS), Virtual, Jun. '20

10. **Li, W**, Dasarathy, G., Berisha, V., *Regularization via Structural Label Smoothing*. International Conference on Artificial Intelligence and Statistics (AISTATS), Virtual, Jun. '20

11. **Thaker, P.**, Dasarathy, G., Nedich, A., *On the Sample Complexity and Optimization Landscape for Quadratic Feasibility Problems*, IEEE International Symposium on Information Theory (ISIT), Virtual, Jun. '20

12. *Structure Learning in Graphical Models: Foundations and Some Modern Challenges* at the RTG Seminar Series, School of Mathematical and Statistical Sciences, Arizona State University, Tempe, AZ . Mar. '20

13. *Interactive Machine Learning for Learning and Leveraging Topology in Wireless Networks* at the ARO Workshop on Proactive and Autonomous Defenses in Wireless Networks, Phoenix, AZ. Dec. '19

14. *Graphical Model Selection from Partially Observed Covariances*. Information Theory and Applications (ITA) Worksop, San Diego, CA. Feb. '20

15. *Thresholding Graph Bandits via GrAPL*. Asilomar Conference on Signals, Systems, and Computers. Nov. '19

16. ~ Dasarathy, G., *Gaussian Graphical Model Selection from Size Constrained Measurements*. IEEE International Symposium on Information Theory (ISIT), Paris, France, Jul. '19

17. *Graphical Model Selection from Size-Constrained Measurements*. Information Theory and Applications (ITA) Workshop. Feb. '19

18. *The Glass and its Knockoffs are Half Full: The Power of Optimism in Multi-Fidelity Optimization* at the SENSIP Seminar Series, Arizona State University, Tempe, AZ . Apr. '19

19. *Active Learning of and on graphs* at the School of Arts, Media and Engineering (AME), Arizona State University, Tempe, AZ . Oct. '18

20. *Closing the Loop on Learning and Data Acquisition: An Interactive Approach* at Computer Science, Purdue University, West Lafayette, IN. Apr. '18

21. *Closing the Loop on Learning and Data Acquisition: An Interactive Approach* at Electrical and Computer Engineering, Rice University, Houston, TX . Mar. '18

22. *Closing the Loop on Learning and Data Acquisition: An Interactive Approach* at Electrical and Computer Engineering, University of Toronto, Toronto, ON, Canada. Mar. '18

23. *Closing the Loop on Learning and Data Acquisition: An Interactive Approach* at Electrical, Computer, and Energy Engineering, Arizona State University, Tempe, AZ. Mar. '18

24. *Closing the Loop on Learning and Data Acquisition: An Interactive Approach* at Electrical and Computer Engineering, University of Illinois, Chicago, IL. Mar. '18

25. *Closing the Loop on Learning and Data Acquisition: An Interactive Approach* at Computer Science, University of California, Santa Cruz, CA. Mar. '18

26. *Closing the Loop on Learning and Data Acquisition: An Interactive Approach* at Computer Science, University of Utah, Salt Lake City, UT. Mar. '18

27. *Closing the Loop on Learning and Data Acquisition: An Interactive Approach* at Electrical Engineering and Computer Science, Pennsylvania State University, State College, PA. Feb. '18

28. *Closing the Loop on Learning and Data Acquisition: An Interactive Approach* at Electrical, Computer, and Energy Engineering, University of Colorado, Boulder, CO. Feb. '18

29. *Closing the Loop on Learning and Data Acquisition: An Interactive Approach* at Computer Science and Engineering, The Ohio State University, Columbus, OH. Feb. '18

30. *Closing the Loop on Learning and Data Acquisition: An Interactive Approach* at the Information Theory and Applications (ITA) Workshop, La Jolla, CA. . Feb. '18

31. *Sketched Covariance Testing* at the Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA . Nov. '17

32. *Compressive and Adaptive Algorithms for Learning Large Graphs* at the CSP Seminar Series, EECS, University of Michigan, Ann Arbor, MI . Sep. '17

33. ~ Dasarathy, G., Shah, P., Baraniuk, R., *Sketched Covariance Testing: A Compression-Statistics Tradeoff.* IEEE International Symp. of Information Theory (ISIT), Aachen, Germany, Jun. '17

34. ~ Dasarathy, G., Rao, N., Baraniuk, R., *On Computational and Statistical Tradeoffs in Matrix Completion with Graph Information.* Signal Processing with Adaptive Sparse Representations (SPARS), Lisbon, Portugal, Jun. '17 (*Full Oral Presentation*, acceptance rate: 23.4%)

35. *Compressive and Adaptive Algorithms for Learning Large Graphs* at the Information Theory and Applications (ITA) Workshop, La Jolla, CA. . Feb. '17

36. ~ Kandaswamy, K., Dasarathy, G., Schneider, J., Poczos, B., *The Multi-Fidelity Multi-Armed Bandit*. Advances in Neural Information Processing Systems, Barcelona, Spain, Dec. '16 (acceptance rate: 22.7%)

37. ~ Kandaswamy, K., Dasarathy, G., Oliva, J., Schneider, J., Poczos, B., *Gaussian Process Bandit Optimization with Multi-fidelity Evaluations*. Advances in Neural Information Processing Systems, Barcelona, Spain, Dec. '16 (acceptance rate: 22.7%)

38. ~ Dasarathy, G., Singh, A., Balcan, M. F., Park, J. H., *Active Learning Algorithms for Graphical Model Selection*. International Conference on Artificial Intelligence and Statistics (AISTATS), Cadiz, Spain, May'16 (*Full Oral Presentation*, acceptance rate: 6.5%)

39. *Active Learning on & off Graphs.* ECE Seminar Series, Rice University, Houston, TX. May '16

40. *Active Learning on and off Graphs* at TTI-Chicago, Chicago, IL. . Apr. '16

41. *Graphical Model Selection via Subsampling* at the SIAM Conference on Applied Algebraic Geometry, Daejon, South Korea. Aug. '15

42. ~ Dasarathy, G., Nowak, R., Zhu, X., S^2*: An Efficient Graph Based Active Learning Algorithm with Application to Nonparametric Classification.* Conference on Learning Theory (COLT), Paris, France, July '15 (acceptance rate: 39.7%)

43. *Data Requirements for Phylogenetic Inference from Multiple Genes* at the Computer Science and Engineering Department Seminar, IIT Madras, Chennai, India. . Feb. '15

44. *Data Requirements for Phylogenetic Inference from Multiple Genes* at the Electrical Engineering Department Seminar, IIT Bombay, Mumbai, India. . Feb. '15

45. *Data Requirements for Phylogenetic Inference from Multiple Genes* at the Information Theory and Applications (ITA) Workshop as part of the "Graduation Day" for outstanding students and postdocs, La Jolla, CA. Feb. '15

46. ~ Dasarathy, G., Nowak, R., Roch, S., *New Sample Complexity Bounds for Phylogenetic Inference from Multiple Loci.* IEEE International Symposium on Information Theory (ISIT), Honolulu, HI, July '14

47. ~ Dasarathy, G., Shah, P., Bhaskar, B., Nowak R., *Sketching Sparse Covariance Matrices and Graphs.* NIPS workshop on Randomized Methods in Machine Learning, Lake Tahoe, NV, Dec. '13

48. ~ Dasarathy, G., Draper, S., *On Reliability of Content Identification from Databases based on Noisy Queries.* IEEE International Symposium on Information Theory (ISIT), St. Petersburg, Russia, Aug. '11

49. ~ Eriksson, B., Dasarathy, G., Singh, A., Nowak R., *Active Clustering: Robust and Efficient Hierarchical Clustering using Adaptively Selected Similarities.* Artificial Intelligence and Statistics (AISTATS), Ft Lauderdale, FL, April '11

PROFESSIONAL
ACTIVITIES AND
SERVICE

- **Virtual Conference Chair:** International Conference on Artificial Intelligence and Statistics (AISTATS).
  Note: This is a premier conference in the areas of artificial intelligence, statistics, and machine learning. I was the chair of the virtual aspect of the conference (during the peak of the COVID-19 pandemic) and was responsible, among other things, for the functioning of the conference websites, the design of the virtual conference experience (which included talks and poster sessions in a virtual "townhall"), and the operation of the conference.

- **Member of Editorial Board (Review Editor)**: Frontiers in Signal Processing (2021-22)

- **International Workshops Organized:**
  - *Advances In Modeling And Learning Interactions From Complex Data* at NIPS 2017, Long Beach, CA, Dec. 2017.
  - *Pulsar Workshop on Information Processing* at SPARS 2017, Lisbon, Portugal, Jun. 2017

- **Senior Program Committee Member or Area Chair:**
  Note: A Senior Program Committee Member or Area Chair is a leadership role in the conference where I oversee 10-20 reviewers' service. I am responsible for paper assignment, ensuring timely reviews, coordinating author rebuttals, and making final decisions.
  - Neural Information Processing Systems (NeurIPS) 2023
  - International Conference on Machine Learning (ICML) 2023
  - Neural Information Processing Systems (NeurIPS) 2022
  - International Conference on Machine Learning (ICML) 2022
  - AAAI Conference on Artificial Intelligence 2021
  - AAAI Conference on Artificial Intelligence 2018

- **Conference Peer Reviewer (over multiple years):**
  Note: These only list unique conference venues. Many of these conferences (such as NeurIPS, ICML, AISTATS, IJCAI, ICLR, SODA, STOC) are considered selective and prestigious. I have reviewed for them over **several years**
  - ACM-SIAM Symposium on Discrete Algorithms (SODA)
  - Neural Information Processing Systems (NeurIPS, previously NIPS)
  - International Conference on Machine Learning (ICML)
  - Symposium on the Theory of Computing (STOC)
  - The International Conference on AI & Statistics (AISTATS)
  - The AAAI Conference on Artificial Intelligence (AAAI)
  - International Joint Conference on Artificial Intelligence (IJCAI)
  - IEEE International Symposium on Information Theory (ISIT)
  - International Conference on Learning Representations (ICLR)

- **Journal Reviewer:**
  Note: These only list the unique journal names. I have reviewed for several of them multiple times.

  1. Journal of Machine Learning Research
  2. ACM Transactions on Algorithms
  3. IEEE Transactions on Signal Processing
  4. Signal Processing (EURASIP)
  5. Annals of Statistics
  6. Electronic Journal of Statistics

7. IEEE Transactions of Information Theory

8. Applied and Computational Harmonic Analysis

9. Distributed Computing

10. IEEE Journal of Selected Topics in Signal Processing

11. PLOS ONE

12. IEEE Transactions of Pattern Analysis and Machine Learning

13. IEEE Signal Processing Magazine

14. IEEE Journal on Selected Areas in Information Theory

15. Mathematics and Computers in Simulations

16. IEEE Transactions on Computational Imaging

- **Proposal Reviewer:**
  - National Science Foundation (NSF) Virtual Panel – 2 times (Jan. 2021, Mar. 2022)
  - National Science Foundation (NSF) Ad Hoc Reviewer (Jan. 2021)
  - Israeli Science Foundation (ISF) – 2 times (Apr. 2019, Apr. 2020)

- **Conference Sessions Chaired**:
  - Information Theory and Applications (ITA) Workshop, Feb. 2020
  - ASILOMAR Conference on Signals, Systems, and Computers, Nov. 2018

GRADUATE AND POST-GRADUATE MENTORING

Postdoctoral Researchers
- Dr. Rajashekhar Anguluri, Fall 2020 - Present
  (Co-advised with Oliver Kosut and Lalitha Sankar)
  Winner of the prestigious **2022 Mistletoe Research Fellowship**
- Dr. Pouria Saidi, Spring 2022 - Present
  (Co-advised with Visar Berisha)
- Dr. Weizhi Li, Spring 2023 - Present
  (Co-advised with Visar Berisha)

Ph.D. Students (Current)

1. Parth Thaker
   - ASU FSE Engineering Graduate Fellowship for 2019-2020
   - ASU ECEE Split-Fee Award, 2020

2. Abrar Zahin

3. Vineet Gattani

4. Mohit Malu
   - Co-Chair (Primary chair: Andreas Spanias)

5. Anirudh Rayas
   - Accepted to Google CS Research Mentorship Program, Fall 2022.

6. Vignesh Tirukkonda

Ph.D. Students Graduated:

1. Weizhi Li | Graduated: Summer 2022
    - First position: Meta, inc.
    - Co-chair (Primary Chair: Visar Berisha)
    - **Awards and Honors:**
        * ASU Graduate Travel Award, 2020
        * ASU Graduate Engineering Fellowship 2019
        * ASU Graduate Engineering Fellowship 2018

2. Dheeraj Narasimha | Graduated: Summer 2022
    - Chair (Co-chair: Lei Ying)

M.S. Thesis Students Graduated:

1. Akarshan Sajja | Graduated: Summer 2022

2. Sambarta Ray | Graduated: Summer 2020 | Co-chair (Primary: Claire Honeycutt)

3. John Janiczek | Graduated: Spring 2020 | Co-chair (Primary: Suren Jayasuriya)

M.S. Project Students Graduated: Shivakshit Patri (Summer 2021), Paroma Chatterjee (Fall 2020)

Awards and Honors:

– Paroma Chatterjee: Teaching Excellence Award 2020.

UNDERGRADUATE MENTORING

Current Undergraduate Research Students:

1. Jiajun Cheng | Summer 2022 onwards (as part of the **ASU SURI** program)

2. Jeselle Enriquez | Spring 2023 onwards

3. Taman Truong | Spring 2023 onwards

Undergraduate (Barrett Honors Thesis) Students Graduated:

1. Rishabh Koottooru | Graduated: Spring 2023 | Co-chair (primary chair: Visar Berisha)

2. Robert Lattus | Graduated: Spring 2021 | First posistion: Ph. D. Student at University of Florida

- **Senior Design Projects:**
    - *Smart Thermostat for Multiple Heat Sources.* J. Baldwin, C. Gilan, K. Molden, and R. Shotwell | Spring 2023 – present.
    - *Automatic Pet Feeder.* B. Almutiari, V.S. Challa, D. Decof, and B. Tian | 2018-19
- **Honors Enrichment Contracts Supervised:**
    - *EEE 350 Honors Enrichment Contract.* Nathaniel France, Sanjivan Manicka, Oriol Descamps, Shane Tokishi | Fall 2022.
    - *EEE 470 Honors Enrichment Contract.* Eric Enriquez | Fall 2019
    - *EEE 350 Honors Enrichment Contract.* Eric Enriquez | Fall 2018

HIGHSCHOOL STUDENTS MENTORED

High School Students Mentored as part of the ASU SCENE program:

1. Shyla Manygoats (2022-2023)
2. Maddox McShane (2022 - 2023)
3. Diya Jim (2021-2022)
4. Charles Zhang (2020 - 2021)
   Winner of the 2nd prize in the Arizona Science and Engineering Fair (AZSEF) in the Mathematics Category.
5. Viraj Mehta (2019-2020)

TEACHING

EEE 560: Mathematical Foundations of Machine Learning (ongoing)   Spring 2023
Note: This is the same course that I developed and taught in Spring 2019, Fall 2019, and Fall 2020. It has been approved to become part of the official ECEE catalog.

EEE 350: Random Signal Analysis   Fall 2022
Undergraduate Course

EEE 554: Random Signal Theory   Fall 2021
Graduate Course

EEE 598: Machine Learning in High Dimensions   Spring 2021
Graduate Course (Special Topics) – Course developed by me

EEE 598: Statistical Machine Learning: From Theory to Algorithms   Fall 2020
Graduate Course (Special Topics) – Course developed by me

EEE 554: Random Signal Theory   Spring 2020
Graduate Course

EEE 598: Statistical Machine Learning: From Theory to Algorithms   Fall 2019
Graduate Course (Special Topics) – Course developed by me

EEE 598: Statistical Machine Learning: From Theory to Algorithms   Spring 2019
Graduate Course (Special Topics) – Course developed by me

EEE 350: Random Signal Analysis   Fall 2018
Undergraduate Course

COURSE DEVELOPMENT

EEE 560: Mathematical Foundations of Machine Learning
(Formerly EEE 598: Statistical Machine Learning: From Theory to Algorithms)
(taught in Spring 2023, Fall 2020, Fall 2019, Spring 2019)
This graduate course will serve as a primer in statistical learning theory and as a platform for exploring emerging algorithms and theory in large scale data analytics. This study is at the intersection of information processing, statistical theory, and computational sciences. The class will contain a healthy mix of topics from all of these disciplines.

EEE 598: Machine Learning in High Dimensions
(to be taught in Spring 2020)

> The graduate course is an introduction to the non-asymptotic statistical analysis of high-dimensional machine learning. The goal is to develop a probabilistic and statistical toolkit that will allow the design and study of data analysis algorithms in high dimensions. Topics covered include: linear and nonparametric regression, covariance estimation and graphical models, sparsity and low rank, and minimax theory. We will also delve into the concentration of measure phenomenon, tail bounds, and basic empirical process theory to develop this toolkit.