Salimeh Yasaei Sekeh

Updated July 2026

CONTACT INFORMATION

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APPOINTMENTS

- **San Diego State University**, San Diego, CA, USA 2024-present
  Associate Professor of Computer Science
  Department of Computer Science
  Research Area: Machine Learning, Computer Vision, Artificial Intelligence, Large Scale Data Science

- **University of Maine**, Orono, ME, USA 2019-2024
  Assistant Professor of Computer Science
  School of Computing and Information Science
  Research Area: Machine Learning, Computer Vision, Statistical Learning, Data Science, Deep Learning, Data Mining, Pattern Recognition, Network Structure Learning

- **University of Michigan**, Ann Arbor, MI, USA 2016-2019
  Post-Doctoral Research Fellow
  Electrical Engineering and Computer Science Department
  Supervisor: Prof. Alfred O. Hero
  Research Area: Machine Learning, Statistical Inference, Data Science, Information Theory

- **Federal University of São Carlos, UFSCar**, São Carlos, SP, Brazil 2014-2016
  Post-Doctoral Research Scholar
  Statistics Department
  Supervisor: Prof. Adriano C. Polpo
  Collaborator: Yuri Suhov (University of Cambridge, UK and Penn State University, PA, USA)
  Research Area: Information Theory, Bayesian inference

- **Polytechnic University of Turin**, Turin, Italy 2011-2013
  Visiting Scholar
  Mathematical Science Department
  Supervisor: Franco Pellerey
  Research Area: Mathematical Statistics and Advanced Probability

EDUCATION

- **Ph.D. in Inferential Statistics** 2008-2013
  Focus: Information theory and Probability
  Ferdowsi University of Mashhad, Mashhad, Iran
  Thesis: Properties of Information Measures Based on Aspects of Reliability

- **M.Sc. in Mathematical Statistics** 2005-2007
  Ferdowsi University of Mashhad, Mashhad, Iran
  Thesis: Residual and Past Entropies and Characterization Some Statistical Models

- **B.Sc. in Statistics** 2001-2005
  Ferdowsi University of Mashhad, Mashhad, Iran
  Project: Time series and Prediction

Grants and Research Support Ongoing

- **NSF-CAREER**, CCF-2144960. Foundations of Deep Neural Network Robustness and Efficiency.
  $679,004. 05/2022-04/2027 - (Role: PI)
- **NSF**, Leveraging Machine Learning to Examine Engineering Students Self-selection in Entrepreneurship Education Programs (NJIT led - PI Prateek Shekhar),
  $8000. 01/01/2024-12/31/2026 - (Role: Machine Learning Consultant).
- **SDSU (RSF)**, Research Support Award, #260C26,
  $1,514. 2/13/2026 - (Role: PI)

Grants and Research Support Completed

- **NSF**, OIA-2416915. Collaborative Research: E-RISE RII: Enhancing Maine Forest Economy, Sustainability, and Technology Ecosystem To Accelerate Innovation (Maine-FOREST).
  $4,526,676 (of $7M total). 2024-2030 - (Role: Co-PI) - Transferred the role to another Co-PI after moving to SDSU.
- **NSF**, DMS-2053480. Deep Network Compression and Continual Learning: Theory and Application.
  $80,000. 7/2021-6/2025 - (Role: PI)
- **Travel Award**, School of Computing and Information Science (SCIS) faculty travel award. $800, 5/6/24-12/31/24
- **UMaine Space Initiative Award**, Robust Lifelong Learning to Improve the Health of Aquatic Ecosystems.
  $25,000. 01/15/2023-01/31/2024 - (Role: PI)
- **MSGC**, AI-Carb: An AI-based High-Resolution Carbon Flux Monitoring and Simulation Platform.
  $25,000. 01/2023-12/2023 - (Role: Co-PI)
- **MSGC**, Decentralized and Resource Efficient Satellite Swarm.
  $25,000. 01/2023-12/2023 - (Role: Co-PI)
- **Cisco**, CG-74987691. Knowledge-Driven Lifelong Learning To Enhance Sustainability.
  $70,047. 09/2022-08/2023 - (Role: PI)
- **RII Track-2 FEC** Leveraging Intelligent Informatics and Smart Data for Improved Understanding of Northern Forest Ecosystem Resiliency (INSPIRES) (UMaine led)
  $6,000,000. 8/1/2019-7/31/2023 - (Role: Senior Personnel)
- **AI Initiative**, seed grants (University of Maine). Improved Adversarial Attack Detection Toward Robustness of Deep Neural Networks.
  $56,486. 8/1/2020-7/31/2021 - (Role: PI)
- **AI Initiative**, seed grants (University of Maine). Interpretation of Light-Material Interactions with Machine Learning for the Detection of Shared Surface Contamination.
  $50,953. 8/1/2020-7/31/2021 - (Role: Co-PI)
- **AI Initiative**, seed grants (University of Maine). Context-Dependent Deep Learning for Seabird Recognition in Drone Survey Imagery.
  $42,050. 8/1/2020-7/31/2021 - (Role: Co-PI)

- **Travel Award**, Bangor Saving Bank, conference travel award. $2000, 2020.

Research Interests

Computer vision, machine learning algorithms, design and enhancement of deep learning techniques with an emphasis on deep network efficiency and robustness, continual learning methods and knowledge transfer, adversarial learning, multimodal learning with transformers, out-of-distribution detection, graph summarization, and data mining.

Practical applications of artificial intelligent and computer vision in real-world problems including safe navigation, smart transportation, remote sensing, AI manufacturing, monitoring health in extreme conditions, forestry, and ocean sciences

Honors and Award

- Best Paper Award, The 11th IEEE International Conference on Intelligent Data and Security (IEEE IDS Conference 2025)
- Nominated for the Faculty Mentor Impact Award, University of Maine, 2024
- UMaine-SCIS Travel Award, 2024
- Maine College of Engineering and Computing (MCEC) Early Career Research Award, 2023
- NSF-CAREER Award, 2022
- Nominated for the Supervisor of the Year Award, University of Maine, 2022
- Bangor Savings Bank Travel Award, 2019
- ITA Graduation Day, University of California, San Diego, invited talk, awarded from University of Michigan, 2019
- ITA Graduation Day, University of California, San Diego, invited poster, awarded from University of Michigan, 2017
- Postdoc Travel Award, Office of Postdoctoral Studies, University of Michigan, USA, 2017
- CAPES-PNPD Research Fellowship, Brazil, 2014
- Ranked amongst the **top 5** graduate students in Mathematical Statistics at the Ferdowsi University of Mashhad, 2007
- Ranked **19th** among nearly **356200** participants in the national MSc entrance exam, 2005

Publications

- **2026**

58. Francis Fernandez, Arash Jahangiri, **Salimeh Sekeh**, C-GAP: Class-Aware and Online Prompting Improves Vision-Language Models on Imbalanced Classes, (under review), available on arXiv: 2607.09008
57. Aditi Naiknaware, Jian Sun, Aminreza Khandan, Shengyang Huang, Sean Dow, Bijan Najafi, **Salimeh Sekeh**, Cross-Contextual Vision-Language Adaptation with LoRA for Personalized Severe Adverse Event Detection in Clinical Wound Monitoring, (under review), available on arXiv: 2607.05625
56. **S. Sekeh** and Xin Zhang, Theoretical Grounding of Out-Of-Distribution Detection With Reinforcement Learning Optimizer, (under review), available on arXiv: 2606.14883

55. **S. Sekeh** and Mary Wisell, Understanding Cross-Modal Contributions in Continual Vision-Language Models: A Theoretical Perspective, (under review), available on arXiv: 2606.14883
54. A. Naiknaware and **S. Sekeh**, T-QPM: Enabling Temporal Out-Of-Distribution Detection and Domain Generalization for Vision-Language Models in Open-World, (under review), available on arXiv: 2603.18481
53. J. Craig, J. Andle, T. Nowak, **S. Sekeh**, A Theoretical Perspective on Subnetwork Contributions to Adversarial Robustness, *The 12th IEEE International Conference on Intelligent Data and Security (IEEE IDS Conference 2026)*, available on arXiv: 2307.03803
52. M. Wisell, N. Jacobs, A. Manandhar, **S. Sekeh**, GRASP: Gradient-Aligned Sequential Parameter Transfer for Memory-Efficient Multi-Source Learning, (*International Conference on Pattern Recognition (ICPR)* 2026).
51. J. Andle, A. Payani, and **S. Sekeh**, Leveraging Information Flow for Knowledge Transfer in Continual Learning (*Neural Processing Letters*), 2026.
50. M. Mozafarinia and **S. Sekeh**, Towards Explaining Deep Neural Network Compression Through a Probabilistic Latent Space. *ACM Transactions on Probabilistic Machine Learning, Volume 2, Issue 1, Pages 1 - 27*, February 2026.

- **2025**

49. Sepideh Neshatfar and **S. Sekeh**, Transformer-based Unsupervised Graph Domain Adaptation, (Under Review, *Transactions on Machine Learning Research*)
48. Aditi Naiknaware*, Sanchit Singh*, Hajar Homayouni, and **S. Sekeh**, Temp-SCONE: A Novel Out-of-Distribution Detection and Domain Generalization Framework for Wild Data with Temporal Shift, *NeurIPS 2025, Reliable ML for Unreliable Data Workshop*, (*equal contribution). Preprint-arxiv: 2512.04571
47. Mahsa Mozafarinia*, Joshua Andle*, Santosh Karnik, Daniel Goldfarb, Paul Hand, and **S. Sekeh**, (*equal contribution). Minimizing Data, Maximizing Performance: Generative Examples for Continual Task Learning. *CVPR 2025, Synthetic Data for Computer Vision Workshop*, (*equal contribution).
46. Soheil Gharatappeh, **S. Sekeh**, Vikas Dhiman, Weather-Aware Object Detection Transformer for Domain Adaptation, 2025. *Preprint-arxiv:2504.10877*
45. S. Neshatfar and **S. Sekeh**, Robust Subgraph Learning by Monitoring Early Training Representations, *The 11th IEEE International Conference on Intelligent Data and Security (IEEE IDS Conference 2025)*, **Best Paper Award**.
44. S. Gharatappeh, Sepideh Neshatfar, **S. Sekeh**, and V. Dhiman, FogGuard: guarding YOLO against fog using perceptual loss, *Computing Conference 2025 (London).*
43. S. Gharatappeh and **S. Sekeh**, Information Consistent Pruning: How to Efficiently Search for Sparse Networks? *AAAI 2025, Scalable and Efficient Artificial Intelligence Systems Workshop.*
42. M. Wisell and **S. Sekeh**, Ghost-Connect Net: A Generalization-Enhanced Guidance For Sparse Deep Networks Under Distribution Shifts *Neural Processing Letters, Vol. 57, N. 84*, 2025.

- **2024**

41. M. Wisell, **S. Sekeh**, R. Rai, B. A. Siesky, A. Verticchio, G. Antman, G. Guidoboni, and A. Harris, Leveraging Machine Learning Techniques to Investigate the Relationship Between Structure and Function in Glaucoma, *Vision for the Future Annual Meeting (ARVO), 2024.*

40. N. Riina, A. Harris, B. A Siesky, L. R Pasquale, J. C Tsai, **S. Sekeh**, B. Wirostko, J. Arciero, B. Fry, G. Eckert, A. Chandra Verticchio Vercellin, G. Antman, P. A Sidoti, G. Guidoboni, Utilizing neural network models on optical coherence tomography angiography biomarkers to enhance diagnosis of primary open angle glaucoma, *Vision for the Future Annual Meeting (ARVO), 2024.*

39. J. Andle, A. Payani, and **S. Sekeh**, Investigating the Impact of Weight Sharing Decisions on Knowledge Transfer in Continual Learning Preprint-arxiv:2311.09506.

- **2023**

38. M. Ganesh, **S. Sekeh**, J. Corso, Can Deep Networks be Highly Performant, Efficient and Robust Simultaneously? *British Machine Vision Conference (BMVC)*, (Oral Paper), 2023.

37. N. Soucy and **S. Sekeh**, CEU-Net: Ensemble Semantic Segmentation of Hyperspectral Images Using Clustering, *Journal of Big Data*, Vol 10, Issue 1, 2023.

36. N. Soucy and **S. Sekeh**, Improving Hyperspectral Adversarial Robustness Under Multiple Attacks, *International Conference on Learning Representation (ICLR) - tiny paper*, 2023.

35. S. Neshatfar, A. Magner, **S. Sekeh**, Promise and Limitations of Supervised Optimal Transport-Based Graph Summarization via Information Theoretic Measures, *IEEE Access Journal*, Vol. 11, P. 87533-87542, 2023, DOI: 10.1109/ACCESS.2023.3302830.

- **2022**

34. J. Andle, N. Soucy, S. Socolow, **S. Yasaei Sekeh**, The Stanford Drone Dataset is More Complex than We Think: An Analysis of Key Characteristics, *IEEE Transactions on Intelligent Vehicles*, April 2022, doi: 10.1109/TIV.2022.3166642.

33. J. Andle and **S. Yasaei Sekeh**, Theoretical Understanding of the Information Flow on Continual Learning Performance, *European Conference on Computer Vision (ECCV)*, 2022.

32. M. Ganesh, **S. Yasaei Sekeh**, J. Corso, Q-TART: Quickly Train for Adversarial Robustness and in-Transferability. ArXiv:2204.07024.

31. Stuhl, I., Kelbert, M., Suhov, Y., **Yasaei Sekeh, S.** Weighted Gaussian Entropy and Determinant Inequalities, *Aequationes mathematicae*. Volume 96, pages 85-114 (2022).

30. M. Ganesh, D. Blanchard, J. Corso, **S. Yasaei Sekeh**, Slimming Neural Networks using Adaptive Connectivity Scores, *IEEE Transaction on Neural Networks and Learning System*, Volume: 35, Issue: 3, March 2022, DOI: 10.1109/TNNLS.2022.3198580.

- **2021**

29. Turner, R.M., Loftin, C., Revello, A., **Yasai Sekeh, S.**, Kline, L.R., and Lewis, M. Context-dependent deep learning, *Modeling and Using Context*, vol. 21 no. 4 (CONTEXT-21 Special Issue), July, 2021.

- **2020**

28. S. Doe, T. Seekings, D. Blanchard, D. Fitzpatrick , **S. Yasaei Sekeh**, Adaptive County Level COVID-19 Forecast Models: Analysis and Improvement, Technical Report, Available on arXiv: 2006.12617.

27. **S. Yasaei Sekeh**, B. Oselio, and A. Hero, Learning to Bound the Multi-class Bayes Error, *IEEE Transactions on Signal Processing*, Vol. 68, pages 3793-3807, 2020

26. M. Ganesh, J. Corso, **S. Yasaei Sekeh**, MINT: Deep Network Compression via Mutual Information-based Neuron Trimming, *25th International Conference on Pattern Recognition (ICPR)*, 2020.

- **2019**

25. **S. Yasaei Sekeh**, M. Noshad, K. Moon, and A. Hero, Convergence Rates for Empirical Estimation of Binary Classification Bounds, *Entropy (Special Issue on Robust Procedures for Estimating and Testing in the Framework of Divergence Measures)*, 21(12), pp. 1144, Nov. 2019.

24. **S. Yasaei Sekeh**, M. Ganesh, Sh. Banerjee, J. Corso, A. Hero, A Geometric Approach to Online Streaming Feature Selection, Available on arXiv: 1910.01182, 2019

23. **S. Yasaei Sekeh** and A. Hero, Geometric Estimation of Multivariate Dependency, *Entropy (Special Issue on Women in Information Theory)*, 21(8), 787-841, 2019- **Invited**

22. **S. Yasaei Sekeh** and A. Hero, Feature Selection for Multi-Labeled Variables via Dependency Maximization, *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2019

- **2018**

21. **S. Yasaei Sekeh**, B. Oselio, and A. Hero, Multi-class Bayes Error stimation with a Global Minimal Spanning Tree. *Allerton Conference on Communication, Control, and Computing*, 2018

20. **S. Yasaei Sekeh**, B. Oselio, and A. Hero, A Dimension-Independent Discriminant Between Distributions, *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, 2018

- **2017**

19. M. Noshad, K. Moon, **S. Yasaei Sekeh**, and A. Hero, Direct Estimation of Information Divergences using Nearest Neighbor Ratios, *IEEE International Symposium on Information Theory (ISIT)*, June 2017

18. K. Moon, M. Noshad, **S. Yasaei Sekeh**, and A. Hero, Information theoretic structure learning with confidence, *IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, March 2017 (**Invited Paper**)

- **2016**

17. Y. Suhov, I. Stuhl, **S. Yasaei Sekeh** and M. Kelbert, Basic Inequalities for Weighted Entropies, Aequat. Math. Vol 90: 4, pp. 817-848, August 2016.

16. M. Bodaghi, **S. Yasaei Sekeh**, and N. Correia. Probability density function of in-plane permeability of fibrous media: Constant Kozeny coefficient, available on arXiv: 1601.02681

- **2015**

15. Y. Suhov, **S. Yasaei Sekeh**, and I. Stuhl, Weighted Gaussian Entropy and Determinant Inequalities, *Technical Report*, May 2015, available on arXiv: 1505.01753

14. **S. Yasaei Sekeh**, Extended Inequalities for Weighted Rnyi Entropy Involving Generalized Gaussian Densities, *Technical Report*, September 2015, available on arXiv: 1509.02190

13. **S. Yasaei Sekeh**, Results on the solutions of maximum weighted Rnyi entropy problems, *Technical Report*, October 2015, available on arXiv: 1510.07461

12. Y. Suhov, **S. Yasaei Sekeh**, and M. Kelbert, Entropy-Power Inequality for Weighted Entropy, *Technical Report*, February 2015, available on arXiv: 1502.02188

11. Y. Suhov and **S. Yasaei Sekeh**, An Extension of the Ky Fan Inequality, *Technical Report*, April 2015, available on arXiv: 1504.01166

10. **S. Yasaei Sekeh** and A. Polpo, On Relative Weighted Entropies With Central Moments Weight Functions, *Technical Report* June 2015, available on arXiv: 1506.04933

9. Y. Suhov and **S. Yasaei Sekeh**, Weighted Cumulative Entropies: An Extension of CRE and CE, *Technical Report*, July 2015, available on arXiv: 1507.07051

8. **S. Yasaei Sekeh**, A Short Note on Estimation of WCRE and WCE, *Technical Report*, August 2015, available on arXiv: 1508.04742

7. **S. Yasaei Sekeh**, G. R. Mohtashami Borzadran, and A. H. Rezaei Roknabadi, A Note on Double Truncated (Interval) Weighted Cumulative Entropies, *Technical Report*, August 2015, available on arXiv:1508.00246

- **2014**

6. F. Bellini, F. Pellerey, C. Sgarra, and **S. Yasaei Sekeh**, Comparison Results for Garch Processes, *Journal of Applied Probability*, Vol. 51, N. 3, 685-698, 2014

5. **S. Yasaei Sekeh**, Bayesian Weighted Information Measures, *Springer proceeding in Mathematics and Statistics, Interdisciplinary Bayesian Statistics*, EBEB, Brazil, pp. 282-296, 2014

4. **S. Yasaei Sekeh**, G. R. Mohtashami Borzadran, and A. H. Rezaei Roknabadi, Some Results Based on a Version of the Generalized Dynamic Entropies, *Communications in Statistics - Theory and Methods*, Vol. 43, Issue. 14, 2989-3006, 2014

- **2012**

3. F. Pellerey, M. Shaked, and **S. Yasaei Sekeh**, Comparisons of Concordance in Additive Models, *Statistics & Probability Letters*, Vol. 82, 2059-2067, 2012

2. **S. Yasaei Sekeh**, G. R. Mohtashami Borzadran and A. H. Rezaei Roknabadi, Some Results Based on Weighted Dynamic Entropies, *Rend. Sem. Mat. Univ. Politec. Torino*, Vol. 70, No. 4 , 2012

1. **S. Yasaei Sekeh**, G. R. Mohtashami Borzadran, and A. H. Rezaei Roknabadi, The Role of Transformation for Versions of the Entropy for Univariate Distribution, *Iranian Journal of Mathematical Science and Informatics*, IJMSI, 2012

Teaching Experience

San Diego State University

- **CS 652, Foundations of Deep Learning** Spring and Fall 2026
- **CS 559, Computer Vision** Spring 2025
- **CS 553, Neural Networks** Fall 2024, 2025, 2026

University of Maine and Prior

- **COS 598, Machine Learning** Spring 2020, 2021, 2022, 2023, 2024
  - University of Maine - Primary Instructor (Graduate Level)
- **COS 598, Statistical Foundation of Data Science** Fall 2020, 2021
  - University of Maine - Primary Instructor (Graduate Level)
- **ECE 498, Mobile Robots** Fall 2023
  - University of Maine - Guest Lecture
- **COS 226, Introduction to Data Structure** Fall 2019, 2021, 2022, 2023, Spring 2021
  - University of Maine - Primary Instructor (Undergraduate Level)
- **EECS 545, Machine Learning** Fall 2017, 2018
  - University of Michigan - Primary Instructor (Graduate Level)
- **Introduction to Information Theory - Mini Course** October 2015
  - Federal University of São Carlos, UFSCar - Primary Instructor (Graduate level)

- **Statistics and Application in Management** 2009
  - University of Bojnourd - Primary Instructor (Graduate Level)
- **Engineering courses:** 2008-2010
  - Differential Equations, Engineering Calculus, Statistics in Engineering, Time Series, Mathematical Statistics I, Pre-Calculus, Calculus I, Applied Calculus
    Iran - Primary Instructor (Undergraduate Level)
- **Calculus I.** 2005
  - Ferdowsi University of Mashhad - Teaching Assistant (Undergraduate Level)

Selected Invited Talks

30. International Mathematics Days V, Federal University of Vicosa, Brazil (2026)
    Physical AI in Open World: Enabling Out-of-Distribution Detection and Generalization for VLMs, May 4th.
29. Research Advancement Center at San Diego State University, (2026)
    Foundations of Reliable, Efficient, and Robust AI-driven Systems in Open World: From Theory to Applications, April 15th. The Sekeh Lab presented and showcased its research at the Research Advancement Center.
28. SDSU-TILOS AI workshop at University of California San Diego (UCSD) (2026)
    Physical AI in Open World, March 20th.
27. ThinkTank Talks, Center to Stream Healthcare in Place (C2SHIP) - UCLA Health (2025)
    Multi-Modal AI for Open-World Learning: From Vision to Smart Health, September 19th.

26. Information Theory and Application workshop (ITA)-UCSD (2025)
Building Robust Intelligence: A Continuous Domain Adaptation Strategy, February 10th.

25. Research Seminar, SDSU Artificial Intelligence Club (2024)
Foundations of Reliable, Efficient, and Robust AI-Driven Systems: From Theory to Applications, November 8th.

24. System & Technology Research (STR) (2024)
Leveraging Subnetworks for Untangling Distribution Shift Dilemma in Continual Learning, July 23rd.

23. Maine Research Symposium on Biomedical Science and Engineering (2024)
Robust AI models for Medicine and Engineering, March 27th.

22. Research Seminar - San Diego State University (2024)
Foundations of Reliable, Efficient, and Robust Learning-Enabled Systems: From Theory to Applications, February 15th.

21. Amazon-Seattle (2023)
Monitoring Continual Learning Performance via Knowledge of Information Flow, June 16th.

20. UMS Research and Innovation Series, (2023)
Foundations of Deep Neural Network Efficiency and Robustness, June 5th.

19. Maine Science Festival, (2023)
Can We Trust AI? Robust Lifelong Learning Could be a Solution!, March 24th.

18. Amazon, (2023)
Continual Learning with Subnetwork Information Flow, March 10th.

17. Information Theory and Application (ITA), organized by the University of California-San Diego (2023) - *Analysis of Deep Neural Subnetwork for Continual Learning and Adversarial Robustness*, February 14th.

16. Cisco, (2022)
Leveraging Information Flow in Deep Neural Network for Knowledge-Driven Continual Learning, September 20th.

15. Federal University of Pernambuco (UFPE), Recife, PE, Brazil. (2021)
Compression Strategies for Efficient Learning in Deep Neural Networks, October 6th.

14. Heriot-Watt University, UK (2020)
Alternative approach in Deep Neural Networks via Connectivity, December 4th.

13. IBM-MIT, (2020)
Efficient Memory-usage Techniques in Deep Neural Networks via a Graph-based Approach, March 16 - Postponed Due to COVID-19.

12. University of California-San Diego, Contextual Robotics Institute (2020)
Efficient Memory-usage Techniques in Deep Neural Networks via a Graph-based Approach, February 5.

11. University of Maine, Chemical and Biomedical Engineering Department Seminar (2019)
Advanced Graph-Based Techniques with Applications in Dimensionality Reduction, November 8.

10. University of Maine, IEEE COM/CS Maine Chapter (2019)
Online Adaptation for Big Streaming Data: From Machine Learning Techniques to Applications, October 25.

9. University of Maine, Graduate seminar (2019)
Graph-based Learning: Method and Application, April 4.

8. University of University of Illinois Urbana-Champaign, graduate seminar (2019)
   Graph-based Learning: Method and Application, March 25.
7. University of Michigan, Ann Arbor, CSP seminar (2019)
   Graph-based Learning: Method and Application, January 24.
6. University of São Paolo (USP-IME)-Brazil (2015)
   Some results concerning weighted entropies.
5. University of São Paolo in São Carlos (USP-ICMC)-Brazil (2015)
   On the KyFan inequality.
4. University of São Paolo in São Carlos (USP-ICMC)-Brazil (2014)
   The weighted Gibbs inequality and its consequences.
3. University of São Paolo in São Carlos (USP) joint with Federal University of São Carlos (UFSCar)-Brazil (2014)
   Comparison Results for GARCH Processes.
2. Polytechnic University of Turin (Italy). (2012)
   A Tour Based on Dynamic Information Measures in Reliability.
1. University of Milano-Bicocca (Italy) (2012)
   Comparisons of Concordance in Additive Models.

Selected Presentations

22. **AI Webinar - UMaine AI Seed Grant Report**, University of Maine, June 3, 2021.
21. **AI Webinar - Advances in AI**, University of Maine, April 29, 2020.
20. **Information Theory and Applications Workshop (ITA)**, San Diego, (USA), February 6, 2020.
    Efficient Memory-usage Techniques in Deep Neural Networks via a Graph-based Approach.
19. **SCIS Seminar**, University of Maine, January, 2020.
    Efficient Memory-usage Techniques in Deep Neural Networks.
18. **IEEE COM/CS Maine Chapter**, University of Maine, Orono (USA),October 25, 2019.
    Online Adaptation for Big Streaming Data: From Machine Learning Techniques to Applications.
17. **Graduate Seminar**, University of Illinois Urbana-Champaign (USA), March 25, 2019.
    Graph-Based Learning for Big Data: From Method to Application.
16. **Graduate Seminar**, University of Maine, Orono, (USA), April 4, 2019.
    Graph-Based Learning for Big Data: From Method to Application.
15. **Information Theory and Applications Workshop (ITA)**, San Diego, (USA), (Poster), February 13, 2019.
    Graph-Based Feature Selection via Dependency Maximization.
14. **Communications and Signal Processing Seminar (CSP)**, University of Michigan, Ann Arbor, (USA), January 24, 2019.
    Graph-based Learning: Method and Application.
13. **MIDAS Annual Symposium: Serving Society through Data Science**, Ann Arbor, (USA), 2018.
    Multiclass Meta-Learning, with B. Oselio and A.O. Hero.
12. **56th Allerton Conference on Communication, Control, and Computing**, (USA), 2018.
    Meta Learning: Multi-Class Classification with a Global Minimal Spanning Tree, with B. Oselio and A.O. Hero.

11. **Information Theory and Applications Workshop (ITA)**, San Diego, (USA), 2018.
Quantifying information by using direct geometric estimators, with A.O. Hero, M. Noshad, and K. Moon.
10. **MIDAS data science symposium, University of Michigan**, (USA), (Poster), 2017.
A dimension-independent discriminant between distributions.
with Brandon Oselio and Alfred O. Hero.
9. **Joint Statistical Meeting (JSM)**, Baltimore, Maryland, (USA), 2017.
Estimation of Henze-Penrose Mutual Information via Minimal Spanning Trees, with A.O. Hero.
8. **SIAM annual meeting (AN17)**, Pittsburgh, Pennsylvania, (USA), 2017.
Estimation of Henze-Penrose Divergence Measure, with M, Noshad, K.R. Moon and A.O. Hero.
7. **57th South African Statistical Association (SASA)**, Pretoria, (South Africa), (**invited**), 2015.
On weighted Gaussian entropy, with Y. Suhov and I. Stuhl.
6. **60th World Statistics Congress (ISI)**, Rio de Janeiro, (Brazil), 2015.
Weighted Entropy-Power Inequality, with Y. Suhov and M. Kelbert.
5. **9th Annual International Conference on Statistics**, Athens, (Greece), 2015.
Selecting Models via Multivariate Weighted Information Measures, with A. Polpo.
4. **1st Brazilian Congress of Young Researchers in Pure and Applied Mathematics**, São Paulo, SP (Brazil), 2014.
On Dynamic Weighted Entropies, with G. R. Mohtashami Borzadaran and A. H. Rezaei Roknabadi
3. **21th SINAPE - Simpósio Nacional de Probabilidade e Estatistica**, Natal, RN (Brazil), 2014.
New Stochastic Orders based on the Inactivity Time, with G. R. Mohtashami Borzadaran and A. H. Rezaei Roknabadi.
2. **12th Brazilian Meeting on Bayesian Statistics**, Atibaia, SP (Brazil), 2014.
Bayesian Weighted Information Measures.
1. **2nd Workshop on Probabilistic and Statistical Methods**, São Carlos, SP (Brazil) (**invited**), 2014.
Concordance in Additive Models, with F. Pellerey and M. Shaked.

Professional Services

San Diego State University

- Member of University Senate AI Working Group, Spring 2026-present
- Search Committee: Tenure Track Faculty on AI, Spring 2026
- College of Sciences Research Committee, Fall 2025-present
- Chair of Curriculum Committee (CS Department): Fall 2025 - present
- CAHSI ARG Course, Spring 2025
- Organizer of CS Seminar Series, Spring 2025 - Present
- Search Committee: Tenure Track Faculty on AI and Cybersecurity, Fall 2024, Spring 2025
- Master in AI program Committee, 2024-present
- Curriculum Committee (CS Department), Fall 2024- Spring 2025

- Chair Curriculum Committee (CS Department), Fall 2025 - present
- Judge, Applied Computational Sciences and Engineering Student success (ACCESS), Spring 2025

University of Maine

- Dean of Maine College of Engineering and Computing (MCEC) Search Committee, Spring 2022.
- CS Graduate Program Committee, 2019-2024
- University Maine Computing - Advisory Faculty Board, 2021-present
- University Maine Computing Task Force: Fall 2021
- Search Committee: Spring 2020 (CS), Spring 2021 (ECE), Fall 2021 (CS), Fall 2024 (Aerospace Engineering)
- Computer Science Graduate Program Committee: Fall 2019 - Present
- Data Science and Engineering Graduate Program Committee: Fall 2019 - Fall 2020
- Interdisciplinary Research Committee -iLunch Seminar Series Organizer: Fall 2019 - 2020

Outreach

San Diego State University

- Mentoring High School Students
  - Sara Abhyankar, Scripps Ranch High School (San Diego Unified School District) Spring 2025-present
  - Aditya Katre, Del Norte High School Spring 2026-present
- AI Summer Bootcamp Summer 2025
  Deep Learning Bootcamp
  San Diego State University - Sekeh Lab
  July 25th, 2025
  Bootcamp Website: Sekeh Lab Website

University of Maine

- Summer Bootcamp Summer 2023
  Introduction to Deep Learning Bootcamp
  Roux Institute - Collaboration between UMaine and Northeastern University
  July 18th & 19th, 2023
  Bootcamp Website: https://umaine.edu/ai-bootcamps/
- ilunch Seminars 2019-2020
  i cubed Interdisciplinary Lunch and Learn seminars
  SCIS-UMaine
- Reading Group 2021-present
  Weekly *reading/discussion club*
  Sekeh Lab in collaboration with Dr Dhiman CV/Robotic lab
- Mentoring High School Students
  Simon Socolov 2020-2022
  Lana Friess 2023
  Brianna Auspland Spring and Summer 2024

Podcasts Newsletters Panels

San Diego State University

- Panelist: CSU Early Career Webcast — February 28, 2025

University of Maine

- Podcast on AI
  S8E8: How will AI impact our lives?
  Link: https://umaine.edu/podcasts/2023/04/20/s8-e8-how-will-ai-impact-our-lives/
- Podcast on AI: Maine Policy Matters
  S4E2 The Impact of AI on Research and Higher Education
  Link: Available on my homepage: https://www.salimeh.info
- Maine Science Festival: 2023 5 Minute Genius
  Link: Available on my homepage: https://www.salimeh.info
- UMaine ARCSIM newsletters
  Research Computing Faculty Spotlights, September 13th, 2023
- Panelist: Early Career Workshop at UMaine
  February 7th, 2023
- Panelist: UMaine AI Webinar
  AI Impact on Research and Education, November 2nd, 2023

Leadership And Services

- **Workshop Organizer**, Women in Computer Vision Workshop (CVPR 2026).
- **Judge**, ACSESS Program, Computational Science Research Center, Spring 2025.
- **NSF Panelist**, 2021, 2022, 2023, 2024, 2025, and 2026 (multiple panels including CISE and DMS)
- **Guest Editor** of the Mathematical Problem in Engineering Journal - special issue on Recent Trends in Statistical Methodologies within Communications and Systems Engineering, 2019.
- **Chair** of the session CP8, Computer Science - Part II of II, SIAM annual meeting (AN17), July 2017.
- **Organizing member** of the Claude E. Shannon Centennial Symposium, September 2016.
- **Judge** of Engineering Graduate Symposium, University of Michigan, 2016.
- **Reviewer:**
  - NeurIPs 2026, CVPR 2024-2026, ECCV 2026, BMVC, 2024-2026, ICCV 2025, WACV 2025-2026, ICPR (2024, 2026), AISTATS (2022-2025), AAAI Conference on Artificial Intelligence 2021, Data Compression Conference 2022
  - Journal of Mathematical Imaging and Vision, IEEE Transaction on Signal Processing, IEEE of Transactions on Pattern Analysis and Machine Intelligence, IEEE Internet of Things Journal, Journal of Communications and Networks, Entropy Journal, Mathematical Methods in Applied Science, Communications in Statistics - Theory and Methods, Communications in Statistics - Simulation and Computation, Journal of Reliability and Statistical Studies, Hacettepe Journal of Mathematics and Statistics (HJMS).
- **Member** of the IEEE, IEEE Information Theory Society.
- **Member** of the Statistics Group of the Neyshabour Payamnoor University (Iran), 2005.

- **Chief Editor** of the "Parash" magazine, Ferdowsi University of Mashhad (Iran), 2002-2004.
- **Member** of the Student Scientific Society of the Ferdowsi University of Mashhad (Iran) and Iranian Statistical Society, 2002-2007.

STUDENTS

San Diego State University

- Mary Wisell: PhD student, JDP (SDSU-UCI) in Sekeh Lab, Fall 2025 - present
- Aditi Naiknaware: PhD student, JDP (SDSU-UCI) in Sekeh lab, Fall 2026 - present
- Mounika Maram: PhD student, JDP (SDSU-UCI) in Sekeh lab, Fall 2026 - present
- Chase Cabrera, Master student in Sekeh lab, Summer 2026 - present
- Francis Fernandez, Master student in Sekeh lab, Fall 2026 - present
- Thea Enache: Undergrad student in Sekeh lab, Spring 2025 - present

University of Maine

- **Graduate**
  - Sepideh Neshatfar: Ph.D. candidate in Sekeh Lab, January 2021 - present (co-advisor)

Alumni
San Diego State University

Former Graduate Students
- Aditi Naiknaware: Master student in Sekeh lab, Spring 2025 - Summer 2026
- Bijal Bharadva, Master student in Sekeh lab, Spring 2026 - Summer 2026
- Tanishq Patil, Master student in Sekeh lab, Spring 2026 - Summer 2026

Former Undergraduate and High School Students
- Francis Fernandez: Undergrad student in Sekeh lab, Fall 2024 - Summer 2026
- Saad Alrajhi: Undergrad student in Sekeh lab, Spring 2025 - Spring 2026
- Jake Basile: Undergrad student in Sekeh lab, Spring 2025 - Summer 2025
- Sara Abhyankar: Scripps Ranch High School student in Sekeh Lab (from San Diego Unified School District), Spring 2025 - Spring 2026

University of Maine

Former Graduate Students
- Josh Andel, PhD Thesis Title: Investigating Deep Neural Network Behavior During Continual Learning, April 2025.
- Soheil Gharatappeh, PhD Thesis Title: Efficient Strategies for Learning Tasks Based on Information Transfer, April 2025.
- Mary Wisell, MSc program, Master Project Title: A Novel Framework for Sequential Multi-Source Transfer Learning: From Theory to Cancer Detection, April 2025.
- Mahsa Mozafarinia, PhD Project Title: Generative Models for Continual Task Learning, September 20222-January 2025.

- Sepideh Neshatfar: MSc program, Master Thesis Title: Promise and Limitations of Supervised Optimal Transport-Based Graph Summarization via Information Theoretic Measures, November 2023.
- Aayush ManandharL Ph.D. student in Yoo Lab, Summer intern in Sekeh Lab. June 2023 - September 2023
- Jovon Craig: MSc program, Project Title: A Theoretical Perspective on Subnetwork Contribution on Adversarial Robustness, August 2023
- Madan R. Ganesh, PhD Thesis Title: Compression and Curriculum Strategies for Efficient Learning in Deep Neural Networks, July 2022. Next Bosch AI, Pittsburgh.
- Nicholas Soucy, IDEXX, Portland, Master Thesis Title: Performance Enhancement of Hyperspectral Semantic Segmentation Leveraging Ensemble Networks, November 2022.
  - Awarded the UMSS22 Best Graduate Presentation in Engineering and Information Sciences.

Former Undergraduate and High School Students

- Jona Fejzaj: Research Assistant in Sekeh Lab, September 2023-2024.
  Affiliation Northeastern University
- Nicholas Jacobs: Research Assistant in Sekeh Lab, Jan 2022 - May 2024, Next PhD student at University of Utah
- Aidan Dominion: Research Assistant in Sekeh Lab, September 2023-May 2024.
  Affiliation Northeastern University
- Rhiannon Gould: Research Assistant in Sekeh Lab, March 2022-August 2024.
  - CUGR 2022-2023 Academic Year Fellowship Award, Title: *Robust Ensemble Deep Learning Methods for Semantic Segmentation of HyperSpectral Images*,$1500.
- Daniel Shobayo: Research Assistant in Sekeh Lab, September 2023-August 2024.
  Affiliation UMass-Boston
- Brianna Auspland: Portland High School Student in Sekeh Lab (Upward Bound program), May 2024-August 2024.
- Lana Friess: Bangor High School Student in Sekeh Lab, March 2023 - September 2023. Next Undergraduate student at University of Maine
- Ian Stebbins: Research Assistant in Sekeh Lab, May 2022-August 2022.
  Awardee of Maine Space Grant Consortium - Institutional Collaboration Pilot Program Research Experience from Bowdoin College.
- Simon Socolov: High-school Student in Sekeh Lab, June 2020 - 2022 Next Student in Williams College.
- Dawsin Blanchard: Research Assistant in Sekeh lab, February 2020 - August 2020
  - UMSS21 Flash Poster Presenter, CUGRE Summer Scholarship Award (2020), $3000.
- Josh Andle: Research Internship in Sekeh Lab, May 2020 - January 2021.
- Thomas Gause: Research Assistant in Sekeh Lab, February 2021 - December 2021.

COMMITTEE

San Diego State University

- Surinder Singh Chhabra: Graduate student in Astronomy at SDSU - Advisor: Anna Rosen (Department of Astronomy)
- Cameron Deschenes: Graduate student in Applied Mathematics at SDSU - Advisor: Jerome Gilles - Program: Applied Mathematics, *graduated in May 2025* Thesis Title: ATMOSPHERIC TURBULENCE MITIGATION OF STATIC IMAGES BASED ON SSIM STRATIFICATION
- Amith Singh: Ph.D. student in Computer Science at University at Albany (SUNY) - Advisor: Dr. Abram Magner - Program: Computer Science

University of Maine

- Vijayanta Jain: Ph.D. student in Computer Science - Advisor: Sepideh Ghanavati, *graduated in 2026*
- Md Hafizur Rahman: Ph.D student in Electrical and Computer Engineering, Advisor Prabuddha Chakraborty
- Sarah Glatter: Ph.D. student in Electrical and Computer Engineering, Advisor Prabuddha Chakraborty
- Mersedeh Najishabahang: Ph.D. student in Electrical Engineering, Advisor: Ali Abedi
- Brady Butler: Ph.D. student in Physics, Advisor: Liping Yu
- Eiyike Smith Jeffrey: Ph.D. student in Electrical and Computer Engineering department, Advisor: Vikas Dhiman
- Masoud Ataei: Ph.D. student in Electrical and Computer Engineering department, Advisor: Vikas Dhiman
- Brennan Schatzabel: MSc. student in Mathematics, Advisor Peter Stechlinski
- Zafaryab Haider: Ph.D student in Computer Engineering, Advisor: Vijay Devabhaktuni
- Tristan Zippert: 4+1 Master CS student, Advisor: Terry Yoo, *graduated in 2024*
- Sam Waggoner: honor thesis CS student, Advisor: Chaofan Chen, *graduated in 2024*
- Zahra Ameli: Ph.D. student in Civil Engineering, Advisor: Eric Landis, *graduated in 2024*.
- Jon Donnelly: the Honor College, Computer Science - Advisor: Chaofen Chen, *graduated in 2022*.