# Salimeh Yasaei Sekeh


CONTACT INFORMATION

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APPOINTMENTS

- **University of Maine**, Orono, ME, USA 2019-present
  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

**My research received approximately $1.1M in grant funding.**

## 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**, DMS-2053480. Deep Network Compression and Continual Learning: Theory and Application.
  $80,000. 7/2021-6/2024 - (Role: PI)
- **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)
- **NSF**, Leveraging Machine Learning to Examine Engineering Students Self-selection in Entrepreneurship Education Programs (NJIT led - PI Prateek Shekhar),
  01/01/2024-12/31/2026 - (Role: Machine Learning Consultant).

## Grants and Research Support Completed

- **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)

## Research Interests

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, graph summarization, and data mining.
Practical applications of machine learning and computer vision in real-world problems including safe navigation, remote sensing, AI manufacturing, monitoring health in extreme conditions, forestry, and ocean sciences

## Honors and Award

- Maine College of Engineering and Computing (MCEC) Early Career Research Award, 2023
- NSF-CAREER Award, 2022
- Nominated for the Supervisor of the Year Award, 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

## Working Papers (To be Submitted)

1. Sequential Transfer Learning with Minimizing Catastrophic Forgetting, with Nicholas Jacobs and Aayush Manandhar (to be submitted to ICML 2024).
2. Leveraging DNN Compression Technique Toward Continual Learning, with Paul Hand, Collaboration between the University of Maine and Northeastern University (to be submitted to ICML 2024).
3. FogRobYOLO: Robust Object Detection for Foggy Weather, with Vikas Dhiman, Soheil Gharatappeh, Sepideh Neshatfat, a collaboration between ECE and CS departments at University of Maine (to be submitted to IEEE Robotics and Automation Letters in Nov 2023).
4. GostConnNet: An Information-based Dense Net to Monitor Knowledge Flow in Deep Neural Network Pruning, with Marry Wisell (to be submitted to ICML 2024).
5. Stabilizing Deep Neural Network Compression via Adaptive Information Extraction, with Soheil Gharatappeh (to be submitted to IEEE Trans. Neural Network and Learning Systems in Jan 2024).

## Publications

- **2023**

43. J. Andle, A. Payani, and **S. Yasaei Sekeh**, Leveraging Subnetworks for Continual Online Learning Under Distribution Shift, (Under Review).
42. S. Neshatfar and **S. Yasaei Sekeh**, Robust Subgraph Learning by Monitoring Early Training Representations, (Under Review).
41. J. Andle, A. Payani, and **S. Yasaei Sekeh**, Investigating the Impact of Weight Sharing Decisions on Knowledge Transfer in Continual Learning (Under Review), *arxiv:2311.09506*.
40. M. Mosafarinia and **S. Yasaei Sekeh**, Towards Explaining Deep Neural Network Compression Through a Probabilistic Latent Space, (Under Review).
39. M. Ganesh, **S. Yasaei Sekeh**, J. Corso, Can Deep Networks be Highly Performant, Efficient and Robust Simultaneously? *British Machine Vision Conference (BMVC)*, (Oral Paper), 2023.

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

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

36. S. Neshatfar, A. Magner, **S. Yasaei 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.

35. J. Craig, J. Andle, T. Nowak, **S. Yasaei Sekeh**, A Theoretical Perspective on Subnetwork Contributions to Adversarial Robustness, 2023, *(Under review - IEEE Trans on Neural Network and Learning Systems)*, available on arXiv: 2307.03803

- **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*, August 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

- **COS 598, Machine Learning** Spring 2020, 2021, 2022, 2023
  - 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

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 Activities UMaine

- Dean of Maine College of Engineering and Computing (MCEC) Search Committee, Spring 2022.
- CS Graduate Program Committee, 2019-present
- 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 2022 (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 - Present
- PhD program committee: Vijay, Sanonda, Brady, Zahra.
- Undergraduate Thesis Committee: Jon Donnelly

## Outreach

- 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
- High school Students
  Simon Socolov — 2020-2022
  Lana Friess — 2023

## Podcasts Newsletters Panels

- 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

- **NSF Panelist**, 2021, 2022, and 2023 (multiple panels)
- **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:**
  - CVPR 2024, AISTATS (2022, 2023, and 2024), 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.

## Languages

- English (Advanced)
- Italian (Good)
- Portuguese (Intermediate)
- Persian (Mothertongue)

STUDENTS

- **Graduate**
  - Mahsa Mozafarnia: Ph.D. student in Sekeh Lab, September 2022 - present
  - Soheil Gharatappeh: Ph.D. student in Sekeh Lab, September 2022 - present (Co-advisor: Vikas Dhiman (ECE - UMaine))
  - Josh Andle: Ph.D. student in Sekeh Lab, January 2021 - present
  - Sepideh Neshatfar: Ph.D. student in Sekeh Lab, January 2021 - present
  - Mary Wisell: 4+1 Master student in Sekeh Lab, January 2022-Present.
    - CLAS Summer Scholarship Award (2022). Title: *Task-Sensitive Prune-Share Approach for Continual Learning*, $3000.
- **Under-Graduate**
  - Rhiannon Gould: Research Assistant in Sekeh Lab, March 2022-Present.
    - CUGR 2022-2023 Academic Year Fellowship Award, Title: *Robust Ensemble Deep Learning Methods for Semantic Segmentation of HyperSpectral Images*,$1500.
  - Jona Fejzaj: Research Assistant in Sekeh Lab, September 2023-Present. Affiliation Northeastern University
  - Aidan Dominion: Research Assistant in Sekeh Lab, September 2023-Present. Affiliation Northeastern University
  - Daniel Shobayo: Research Assistant in Sekeh Lab, September 2023-Present. Affiliation UMass-Boston
- **Alumni**

  **Former Graduate Students**
  - Sepideh Neshatfar: MSc program, 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, Bosch AI, Pittsburgh, PhD Thesis Title: Compression and Curriculum Strategies for Efficient Learning in Deep Neural Networks, July 2022.
  - 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**
  - Lana Friess: Bangor High School Student in Sekeh Lab, March 2023 - September 2023.
  - 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 (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

- Vijayanta Jain: Ph.D. student in Computer Science - Advisor: Sepideh Ghanavati
- Md Hafizur Rahman: Ph.D student in Electrical and Computer Engineering, Advisor Prabuddha Chakraborty
- Mersedeh Najishabahang: Ph.D. student in Electrical Engineering, Advisor: Ali Abedi
- Juan Aviles Ordonez, Ph.D. student in Civil and Environmental Engineering, Advisor: Ali Shirazi
- Eduardo Vergara, Ph.D. student in Civil and Environmental Engineering, Advisor: Ali Shirazi
- Brady Butler: Ph.D. student in Physics, Advisor: Liping Yu
- Zahra Ameli: Ph.D. student in Civil Engineering, Advisor: Eric Landis
- Eiyike Smith Jeffrey: Ph.D. student in Electrical and Computer Engineering department, Advisor: Vikas Dhiman
- Tristan Zippert: 4+1 Master CS student, Advisor: Terry Yoo
- Sam Waggoner: honor thesis CS student, Advisor: Chaofan Chen
- Zafaryab Haider: Ph.D student in Computer Engineering, Advisor: Vijay Devabhaktuni
- Jon Donnelly: the Honor College, Computer Science - Advisor: Chaofen Chen, graduated in 2022.