Ehsan Hajiramezanali

Department of Electrical and Computer Engineering
3128 TAMU
College Station, TX 77843-3128

Email: ehsanr@tamu.edu
ehsanhajiramezanali.github.io
Google Scholar Profile

EDUCATION

Texas A&M University — College Station, TX
Ph.D. Candidate in Electrical Engineering — Aug. 2015 - Present

Amirkabir University of Technology — Tehran, Iran
Ph.D. Candidate in Electrical Engineering — Sep. 2013 - Aug. 2015

Amirkabir University of Technology — Tehran, Iran
M.Sc. in Electrical Engineering — Sep. 2009 - Feb. 2012

K. N. Toosi University of Technology — Tehran, Iran
B.Sc. in Mechanical Engineering — Sep. 2005 - Aug. 2009

RESEARCH INTERESTS

- Machine Learning and Data Analytics
- Bayesian Methods and Statistical Inference
- Graph Neural Networks and Relational Inference
- Computational Biology and Bioinformatics

PUBLICATIONS **(Google Scholar Summary: H-index: 7, Citation: 101)**

$\star$ = equal contribution with the first author

Published/Accepted (chronological)

[**C10**] A. Hasanzadeh*, **E. Hajiramezanali***, S. Boluki, M. Zhou, N. Duffield, K. Narayanan, and X. Qian, "Bayesian Graph Neural Networks with Adaptive Connection Sampling", ***International Conference on Machine Learning (ICML 2020)***. (acceptance rate: 21.8%)

[**C9**] **E. Hajiramezanali**, A. Hasanzadeh, N. Duffield, K. Narayanan, M. Zhou, and X. Qian, "Semi-Implicit Stochastic Recurrent Neural Networks", **IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2020)**, Barcelona, Spain, May 2020. (*Oral Presentation*).

[**B1**] A. Bal, Y. Chen, Z. Chen, A. Dinavahi, **E. Hajiramezanali**, E. Kaya, S. Moosavi, and P. Wallace, "ESET 211 AC Circuits - Lab Manual", ***Industrial Distribution Program***, Texas A&M University, January 2020.

[**C8**] **E. Hajiramezanali**, A. Hasanzadeh, N. Duffield, K. Narayanan, M. Zhou, and X. Qian, "Variational Graph Recurrent Neural Networks", ***Neural Information Processing Systems (NeurIPS 2019)***, Vancouver, Canada, Dec. 2019. (acceptance rate: 21.1%)

[**C7**] A. Hasanzadeh*, **E. Hajiramezanali***, N. Duffield, K. Narayanan, M. Zhou, and X. Qian, "Semi-Implicit Graph Variational Auto-Encoders", ***Neural Information Processing Systems (NeurIPS 2019)***, Vancouver, Canada, Dec. 2019. (acceptance rate: 21.1%)

[**J6**] **E. Hajiramezanali**, M. Imani, U. Braga-Neto, X. Qian, and E. Dougherty, "Scalable Optimal Bayesian Classification of Single-Cell Trajectories under Regulatory Model Uncertainty", ***BMC Genomics***, Volume 20, Number 6, June 2019.

[**C6**] **E. Hajiramezanali**, S. Z. Dadaneh, A. Karbalayghareh, M. Zhou, and X. Qian, "Bayesian Multi-Domain Learning for Cancer Subtype Discovery from Next-Generation Sequencing Count Data", ***Neural Information Processing Systems (NeurIPS 2018)***, Montreal, Canada, Dec. 2018. (acceptance rate: 20.8%)

[**C5**] **E. Hajiramezanali**, M. Imani, U. Braga-Neto, X. Qian, and E. Dougherty, "Scalable Optimal Bayesian Classification of Single-Cell Trajectories under Regulatory Model Uncertainty," *Proceedings of the 2018 ACM International Conference on Bioinformatics, Computational Biology, and Health Informatics* ***(ACM BCB 2018)***, Washington, DC, August 2018.

[**J3**] Z. Li, P. Zhang, A. Yan, Z. Guo, Y. Ban, J. Li, S. Chen, H. Yang, Y. He, J. Li, S. Chen, H. Yang, Y. He, J. Li, Y. Guo, W. Zhang, **E. Hajiramezanali**, H. An, D. Fajardo, J. W. Harbour, Y. Ruan, S. D. Nimer, P. Yu, X. Chen, M. Xu, F. Yang, "ASXL1 interacts with the cohesin complex to maintain chromatid separation and gene expression for normal hematopoiesis," ***Science Advances***, Volume 3, Number 1, 2017.

[**C4**]] **E. Hajiramezanali**, K. He, P. Figueiredo, S. Sze, X. Qian, "Impact of RNA-seq Read Alignment on Differential Alternative Splicing Detection," *14th Annual MidSouth Conference on Computational Biology and Bioinformatics* ***MCBIOS 2017***, AR, USA, March 2017.

[**J2**] S. H. Fouladi, **E. Hajiramezanali**, H. Amindavar, J. A. Ritcey, and P. Arabshahi, "Denoising Based on Multivariate Stochastic Volatility Modeling of Multiwavelet Coefficients," ***IEEE Transactions on Signal Processing***, Volume 61, Number 22, November 2013.

[**J1**] **E. Hajiramezanali**, S. H. Fouladi, J. A. Ritcey, and H. Amindavar, "Stochastic Differential Equations for Modeling of High Maneuvering Target Tracking," ***ETRI Journal***, Volume 35, Number 5, October 2013.

[**C3**] **M. Hajiramezanali**, H. Amindavar, "Maneuvering Target Tracking based on SDE Driven by GARCH Volatility," *IEEE International Workshop on Statistical Signal Processing* ***(SSP 2012)***, Ann Arbor, Michigan, USA, August 2012.

[**C2**] **M. Hajiramezanali**, H. Amindavar, "Maneuvering Target Tracking based on Combined Stochastic Differential Equations and GARCH process," *11th International Conference on Information Science, Signal Processing and their Applications* ***(ISSPA 2012)***, Montreal, Canada, July 2012.

[**C1**] **E. Hajiramezanali**, M. Ahmadian Attari, "Design and implementation of ANC algorithm for engine noise reduction inside an automotive cabin using TMS320C5510," *19th Iranian Conference on Electrical Engineering* ***(ICEE 2011)***, Tehran, Iran, May 2011.

Under Review

- **E. Hajiramezanali**, A. Hasanzadeh, N. Duffield, K. Narayanan, and X. Qian, "BayReL: Bayesian Relational Learning for Multi-omics Data Integration," ***Neural Information Processing Systems (NeurIPS 2020)***.
- **E. Hajiramezanali**, S. Z. Dadaneh, P. Figueiredo, S. Sze, M. Zhou, and X. Qian, "Differential Expression Analysis of Dynamical Sequencing Count Data with a Gamma Markov Chain," ***Bioinformatics***, 2020.

ACADEMIC HONORS

- Recipient of the **Chevron Scholarship**, Texas A&M University. [2020]
- Finalist nominee for the **Best Student Paper Award**, 45th International Conference on Acoustics, Speech, and Signal Processing (ICASSP). [2020]
- Finalist nominee for the **2020 Google AI Fellowship**, Texas A&M University. [2020]
- Recipient of **US Residency under the Category of National Interest**. [2020]
- Finalist nominee for the **Outstanding Engineering Awards**, College of Engineering, Texas A&M University. [2019]
- Recipient of the **Outstanding Graduate Student Award**, Department of Electrical and Computer Engineering, Texas A&M University. [2019]
- Top 50% **highest-scoring reviewers**, Thirty-third Conference on Neural Information Processing Systems (NeurIPS). [2019]
- Recipient of the **Travel Grant Award** from Scientific Computing meets Machine Learning and Life Sciences. [2019]
- Recipient of the **NSF Travel Grant Award** from International Workshop on Computational Network Biology: Modeling, Analysis, and Control. [2018]

- Recipient of the **Travel Grant Award** from the 14th Annual MCBIOS Conference. [2017]
- **Ranked 71st** among nearly 40,000 participants in the Nation Wide Universities Entrance Exam for MSc. Degree among All Branches of Electrical Engineering, Iran. [2009]

EXPERIENCE

Research Experience

- **Research Assistant, Texas A&M University**, Aug. 2015 - Present.
- **Research Assistant, Amirkabir University of Technology**, Aug. 2009 - July 2015

Teaching Experience

- **Teaching Assistant.** Texas A&M University, Aug. 2017 - May 2020.
  - Power Systems and Circuit Applications, Analog Electronics
- **Teaching Assistant.** Prof. H. Amindaver, Amirkabir University of Technology, Aug. 2013 - July 2015.
  - Digital Signal Detection and Estimation, Digital Signal Processing, Advanced Digital Communication
- **Instructor.** Taali Institute of Higher Education, Department of ICT, Aug. 2011 - Aug. 2013:
  - Probability and Statistics, Digital Communication, Analogue Communication, Satellite Communication

MAJOR TALKS

1. "Variational Node Embedding," Graph Signal Processing Workshop (GSPW), University of Minnesota, 2019.
2. "Graph Representation Learning," Winedale Workshop, TX, 2019.
3. "Hiearachical Bayesian Modeling for Cancer Subtype Discovery," Texas Tech University, TX, 2019.
4. "Bayesian Multi-Domain Learning," Winedale Workshop, TX, 2018.
5. "Impact of RNA-seq Read Alignment on Differential Alternative Splicing Detection," the 15th Annual MCBIOS Conference, AR, 2017.

PROFESSIONAL ACTIVITIES

Reviewer

- **Conferences:** BHI 2017, NeurIPS 2019, AAAI 2019, EMBC 2019, NeurIPS 2020, ICML 2020, ICLR 2021
- **Journals:** IET Control, Theory & Applications, IET Radar, Sonar & Navigation, IEEE/ACM Transactions on Computational Biology and Bioinformatics, IEEE Intelligent Systems, PLOS ONE, IEEE Transactions on Signal Processing

Open source contributions

- VGRNN, SIG-VAE, BayReL, GMNB: [GitHub Repositories]

COLLABORATORS

My research opened collaborations with several schools listed below:

- **The University of Texas at Austin:** Dr. Mingyuan Zhou
- **Texas A&M University:** Prof. Edward Dougherty, Prof. Ulisses Braga Neto, Prof. Krishna Narayanan, Prof. Nick Duffield, Dr. Paul de Figueiredo, and Dr. Sing-Hoi Sze
- **University of Washington:** Prof. James A Ritcey, and Dr. Payman Arabshahi
- **Miller School of Medicine - University of Miami:** Dr. Feng-Chun Yang
- **The George Washington University:** Dr. Mahdi Imani