

Arash Rasti Meymandi, Ph.D.

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I'm a second-year Ph.D. candidate in Electrical & Computer Engineering. My background includes teaching in academic and industrial settings, where I've gained practical experience applying **Machine Learning** and **Signal Processing** algorithms. I've worked on diverse applications, ranging from Biomedical to Communication Technologies. My current research is on **Graph-structured Machine Learning**, **Graph Neural Networks**, and **Graph Transformers**.

Education

- 2022 – ■ **Ph.D. in Electerical and Computer Engineering, University of Toronto**
- 2019–2022 ■ **M.Sc. in Biomedical Engineering (1st rank), Iran Uni of Science and Technology**
major in Bioelectric, **GPA: 18.75 / 20**
Thesis title: *MR image reconstruction based on sparse representation and deep learning.*
- 2014–2019 ■ **B.Sc. in Electrical Engineering (1st rank), Yazd University** major in Electronics, **GPA: 18.64 / 20**
Thesis title: *mplementation of an Intelligent Identification System Based on Visible Light Communication.*

Research Publications

Journal Articles

- 1 A. Rasti-Meymandi, A. Ghaffari, and E. Fatemizadeh, "Plug and play augmented hqs: Convergence analysis and its application in mri reconstruction," *Neurocomputing*, vol. 518, pp. 1–14, 2023.
- 2 A. Rasti-Meymandi and A. Ghaffari, "A deep learning-based framework for ecg signal denoising based on stacked cardiac cycle tensor," *Biomedical Signal Processing and Control*, vol. 71, p. 103 275, 2022.
- 3 A. Rasti-Meymandi, S. M. Sheikholeslami, J. Abouei, and K. N. Plataniotis, "Graph federated learning for ciot devices in smart home applications," *IEEE Internet of Things Journal*, vol. 10, no. 8, pp. 7062–7079, 2022.
- 4 S. M. Sheikholeslami, A. Rasti-Meymandi, S. J. Seyed-Mohammadi, J. Abouei, and K. N. Plataniotis, "Communication-efficient federated learning for hybrid vlc/rf indoor systems," *IEEE Access*, vol. 10, pp. 126 479–126 493, 2022.
- 5 A. Rasti-Meymandi and A. Ghaffari, "Aecg-decompnet: Abdominal ecg signal decomposition through deep-learning model," *Physiological Measurement*, vol. 42, no. 4, p. 045 002, 2021.
- 6 A. Rasti-Meymandi, A. Madahian, J. Abouei, *et al.*, "Design and implementation of vlc-based smart barrier gate systems," *AEU-International Journal of Electronics and Communications*, vol. 136, p. 153 765, 2021.

Conference Proceedings

- 1 A. Rasti-Meymandi, P. Chet Ng, H. Liu, Y. Yu, and K. N. Plataniotis, "Persota fl: A robust-to-noise personalized over the air federated learning for human activity recognition," in *the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (Workshop)(Accepted)*, Conference Date: 2024/4, IEEE, 2024, pp. -.

- 2 A. Rasti-Meymandi, A. Sajedi, and K. N. Plataniotis, "Fedpnp: Personalized graph-structured federated learning," in *Computer Vision–ECCV 2024: 18th European Conference on Computer Vision, Milan, Italy (Submitted)*, Springer, 2024, pp. -.
- 3 A. Rasti-Meymandi, J. Abouei, Z. Hajiakhondi-Meybodi, A. Mohammadi, and A. Asif, "Fast machine learning-based signal classification in energy constrained crn: Fpga design and implementation," in *2021 IEEE International Conference on Autonomous Systems (ICAS)*, IEEE, 2021, pp. 1–5.
- 4 A. Rasti-Meymandi, R. Karimzadeh, A. Zarei, and A. Ghaffari, "A non-contact heart rate estimation framework based on photoplethysmography amplitude variation elimination and data fusion," in *2021 28th National and 6th International Iranian Conference on Biomedical Engineering (ICBME)*, IEEE, 2021, pp. 236–241.

Experience

Teaching Assistant

Winter 2024	<ul style="list-style-type: none"> ■ CSC311H5: Machine Learning and Data Mining ■ CSC420H5: , Introduction to Image Understanding
Fall and Winter 2023	<ul style="list-style-type: none"> ■ CSCC11H3: , Introduction to Machine Learning and Data Mining
Fall 2023	<ul style="list-style-type: none"> ■ CSC373H5F, Algorithm Design and Analysis
Fall 2016 and Winter 2017	<ul style="list-style-type: none"> ■ undergrad course, Signal and Systems Signal and Systems

Freelance lecturer

Spring 2017	<ul style="list-style-type: none"> ■ PARSAN Electronics. As a part-time job, I was assigned to teach "Practical Electronic" course at PARSAN electronic company.
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Relevant courses taken

Fall 2022	<ul style="list-style-type: none"> - ECE1513HF Introduction to Machine Learning (Grade : A⁺) - ECE1512HF Image Processing and Applications (Grade : A⁺)
Winter 2023	<ul style="list-style-type: none"> - ECE1521H Detection and Estimation (Grade : A⁺) - ECE1762H Algorithms and Data Structures (Grade : B⁺)
Spring 2020	<ul style="list-style-type: none"> - Pattern Recognition (During M.sc.: Grade: 100/100) - Digital Signal Processing (DSP) (During B.sc.: Grade: 100/100)
Fall 2016	<ul style="list-style-type: none"> - Probability and Statistics (During B.sc.: Grade: 93/100)
Fall 2017	<ul style="list-style-type: none"> - Digital Communication (During B.sc.: Grade: 95/100)

Skills

Languages	Strong reading, writing and speaking competencies for English and Farsi.
Coding	Python, Matlab, C, C++
ML Libraries	Pytorch, Tensorflow, scikit-learn