

Arash Rasti Meymandi

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HIGHLIGHTS OF QUALIFICATION

- 3 years of industry and academic experience as Machine Learning Researcher/Engineer.
- Author of multiple Machine learning papers at the intersection of Communications, Biomedical Technologies, and Language Models.
- Having a Ph.D. and M.Sc. in Machine Learning from Electrical and Computer Engineering stream
- Strong communication ability, collaboration work, and skilled in thinking out of the box to solve real-world problems

PROFESSIONAL EXPERIENCE

Computer Vision and AI Technical Specialist

Aivalon: Health Tech Start-up [Link]

April 2024-Present

- Developed the MVP for the company

Machine Learning Engineer

Noah's Ark Lab, Huawei Technologies , Toronto, Canada

Jan. 2022-Sept. 2023

- Helped creating the multimodal data collection for Human Activity Recognition (HAR)
- Designed and implemented a Federated Learning algorithm on the multimodal HAR dataset
- Published on ICASSP workshop paper

Machine Learning Researcher

Joint Project: Natural Language Processing (NLP) for Persian Poetry

Sept 2022-Present

- Developed a Language Processing model for Persian Poetry
- Published a research paper

Graduate Research Assistant

University of Toronto

Dec 2022-Present

- Developed multiple algorithms in Graph structured-machine learning such as graph federated learning and graph distillation within the first Ph.D. candidacy year
- Published/submitted 3 research papers

PROJECTS

Remote Photoplethysmography (PPG) extraction using Video Camera

Signal Processing

May 2024 – Present

Python, OpenCV

- Developing a hybrid deep learning/signal processing aided model for the extraction of PPG as a biomarker
- Developed the MVP for the company

Human Activity Recognition (HAR) with Multimodal Sensors

Deep Learning/Federated Learning Project

Jan 2023 – Sept 2023

Python, TensorFlow

- Implemented a multimodal model for HAR
- Participated in the Data collection

Artificial Intelligence for Digital Humanities

Natural Language Processing

Dec 2022 – Present

Python, NLTK, Hugging Face

- Developed an end-to-end system for generating wordcloud of topics in Persian poems
- Implemented a pre-trained transformer model (Bert) to extract embeddings from poems

Visible Light Communication (VLC) for Smart Gates

Communication Engineering project

Oct 2018 – Sept 2019

C,C++

- Developed the VLC technology for vehicle to infrastructure communication
- Filed an Iranian Patent

EDUCATION

University of Toronto
Ph.D. in Electrical and Computer Engineering

Toronto, Canada
Sept 2022 – Present

Iran University of Science and Tech
M.Sc. in Biomedical Engineering, Bioelectric

Tehran, Iran
Sept 2019 – Sept 2022

Yazd University
B.Sc. in Electrical Engineering

Yazd, Iran
Sept 2014 – Sept 2019

PUBLICATIONS

First Author in impactful papers (ECCV, IEEE IoT Journals, Pattern Recognition, Neurocomputing)

- [C1] "GSTAM: Graph Distillation with Structural Attention-Matching", Rasti-Meymandi et al., **ECCV24-DD (Submitted)**
- [J1] "FedPnP: Personalized Graph-Structured Federated Learning", Rasti-Meymandi et al., **Pattern recognition , Elsevier 2024 (Submitted)**
- [J2] "Graph federated learning for ciot devices in smart home applications", Rasti-Meymandi et al., **IEEE Internet of Things Journal, 2022**
- [J3] "Plug and play augmented HQS: Convergence analysis and its application in MRI reconstruction", Rasti-Meymandi et al., **Neurocomputing, Elsevier, 2023**
- [J4] "A deep learning-based framework For ECG signal denoising based on stacked cardiac cycle tensor", Rasti-Meymandi et al., **Biomedical Signal Processing and Control, Elsevier, 2022**
- [J5] "AECG-DecompNet: abdominal ECG signal decomposition through deep-learning model", Rasti-Meymandi et al., **Physiological Measurement, 2021**
- [J6] "Opportunities for Persian Digital Humanities Research with Artificial Intelligence Language Models; Case Study: Forough Farrokhzad", Rasti-Meymandi et al., **ArXiv (Submission pending for journal), 2024**

SKILLS

Programming language: Python, C, MATLAB,
Deep Learning Frameworks: TensorFlow, PyTorch, Keras
Libraries & Tools: NumPy, Scikit-learn, OpenCV, NLTK, Pandas, etc.

HONORS AND TEACHING EXPERIENCE

Reviewer: Reviewer of Top-tiered Journals and top conferences such as ECCV24, IEEE Access, etc.	2024
Tutorial TA: Introduction to Computer Science II, University of Toronto	Summer 2024
Project TA: Introduction to Image Understanding, University of Toronto	Winter 2023
Project TA: Algorithm Design and Analysis, University of Toronto	Winter 2023
Project TA: Introduction to Machine learning, University of Toronto	Winter, Fall 2023 and 2022