

# Arash Rasti Meymandi

arash.rasty.ar@gmail.com | <https://arashrasti96.github.io/> | [linkedin.com/in/arash-rasti-meymand](https://www.linkedin.com/in/arash-rasti-meymand)

## HIGHLIGHTS OF QUALIFICATION

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- 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

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### Computer Vision and AI Technical Specialist

*Aivalon: Health Tech Start-up [Link]*

*April 2024-Present*

- Developed the MVP for the company
- Actively assess and select top talent for our technical and research teams in the company

### Machine Learning Engineer

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

*Jan. 2023-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

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### Remote Photoplethysmography (PPG) extraction using Video Camera

*May 2024 – Present*

*Signal Processing*

*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

*Jan 2023 – Sept 2023*

*Deep Learning/Federated Learning Project*

*Python, TensorFlow*

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

### Artificial Intelligence for Digital Humanities

*Dec 2022 – Present*

*Natural Language Processing*

*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

*Oct 2018 – Sept 2019*

*Communication Engineering project*

*C,C++*

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

## EDUCATION

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**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

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### Author in impactful papers (ECCV, AAAI, IEEE IoT, Pattern Recognition, Neurocomputing)

- [C1] "Learning with Dual Noisy Labels for Text-to-Image Person Re-identification", et al. ,Rasti-Meymandi, et al., **AAAI25 (submitted)**
- [C2] "GSTAM: Graph Distillation with Structural Attention-Matching", Rasti-Meymandi et al., **ECCV24-DD (Accepted)**
- [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 Farokhzad", Rasti-Meymandi et al., **ArXiv (Submission pending for journal), 2024**

## SKILLS

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

## HONORS AND TEACHING EXPERIENCE

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