

Sahar Rahimi Malakshan

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Fourth-year Ph.D. candidate with expertise in Computer Vision and Machine Learning, currently interning at Mayo Clinic.

Education

West Virginia University

Ph.D. in Electrical Engineering (GPA: 4.0/4.0)- Expected Graduation: Dec 2025 – May 2026.

- **Courses:** Deep Learning, Computer Vision, Application of Neural Networks, Stochastic System Theory, Pattern Recognition, Natural Language Processing Specialization (Coursera), Generative AI with Large Language Models (Coursera).

Morgantown, USA

Aug 2021 - Current

K. N. Toosi University of Technology

M.Sc. in Biomedical Engineering (GPA: 4.0/4.0)

Tehran, Iran

Sep 2017 - Sep 2020

K. N. Toosi University of Technology

B.Sc. in Electrical Engineering (GPA: 3.5/4.0)

Tehran, Iran

Sep 2012 - Sep 2016

Work Experience

Mayo Clinic

Intern in Data Science AI&I

Rochester, MN, USA

January 2025 – Present

Selected Papers [\(Google Scholar Link\)](#)

- Decomposed Distribution Matching in Dataset Condensation, *In WACV, 2025.*
- ARoFace: Alignment Robustness to Improve Low-Quality Face Recognition, *In ECCV, 2024.*
- Hyperspherical Classification with Dynamic Label-to-Prototype Assignment, *In CVPR, 2024.*
- A Quality Aware Sample-to-Sample Comparison for Face Recognition, *In WACV, 2023.*
- Joint Super-Resolution and Head Pose Estimation for Extreme Low-Resolution Faces, *In IEEE Access, 2023.*
- Deep boosting multi-modal ensemble face recognition with sample-level weighting, *In IJCB, 2023.*

Skills

- **Technical Skills:** Proficient in Python (with a focus on PyTorch) for deep learning, machine learning and data analysis.
- **Soft Skills:** Demonstrated creativity in problem-solving and strong communication, evidenced by presentations and peer-reviewed publications.

Recent projects

- **Cancer Diagnostic (Ongoing Internship Project):** Developing, optimizing, and evaluating vision foundation models to enhance the accuracy and robustness of cancer detection. Leveraging diffusion models for synthetic medical image generation, improving dataset diversity and retrieval tasks in real-world medical applications.
- **Efficient Dataset Condensation:** Developed a novel dataset condensation method that enhances style matching and intra-class diversity in condensed datasets, resulting in a paper accepted at the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2025.
- **Metric Space Utilization:** Developed a novel method for dynamic optimization of prototype categories during deep learning training, enhancing metric space utilization. This method demonstrated improvements in both balanced and long-tail classification tasks across various architectures, resulting in a paper accepted at the IEEE Conference on Computer Vision and Pattern Recognition (CVPR).
- **Long Range Face Recognition:** Supported by the Intelligence Advanced Research Projects Activity (IARPA), I contributed to presentations and PI review meetings for the IARPA-Biometric Recognition and Identification at Altitude and Range (BRIAR) program (2022–2024). These efforts culminated in six publications advancing real-world face recognition: one paper accepted at European Conference on Computer Vision (ECCV), three papers presented at IEEE International Joint Conference on Biometrics (IJCB) conferences, one paper presented at WACV, and one article in the IEEE Access journal.
- **Functional and Structural human brain changes:** Developed an innovative model that integrates EEG data and MR images to analyze age-related changes in the adult brain cortex. This research culminated in significant findings, published in two prominent journals: a research paper in the PLoS ONE journal and a comprehensive review in the Reviews in the Neurosciences journal.

Reference

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