

Sahar Rahimi Malakshan

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Fourth-year Ph.D. candidate specializing in Computer Vision and Machine Learning

Education

West Virginia University

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

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

Data Science AI&I Intern

Rochester, MN, USA

Jan 2025 – Aug 2025

CCC Intelligent Solutions

Data Science Intern

Chicago, IL, USA

Sep 2025 – Dec 2025

Selected Papers (Google Scholar Link)

- GIF: Generative Inspiration for Face Recognition at Scale, *In CVPR, 2025.*
- 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

- **Generative AI for Vehicle Understanding:** Trained diffusion and flow-matching models to synthesize high-fidelity vehicle imagery, expanding long-tail scenario coverage and improving robustness of downstream vision systems.
- **AI for Cancer Diagnosis:** Advancing pathology image analysis by developing and fine-tuning vision foundation models for robust cancer detection and subtyping. Integrated diffusion-based synthetic image generation to enrich dataset diversity, and enhanced image retrieval pipelines for real-world diagnostic applications.
- **Efficient Dataset Condensation:** Developed a novel dataset condensation method that improves style alignment and enforces intra-class diversity in condensed datasets, enabling more robust training with significantly fewer samples.
- **Metric Space Utilization:** Developed a dynamic label-to-prototype optimization method that improves metric space utilization during deep model training, yielding consistent gains in both balanced and long-tail classification across diverse network architectures.
- **Long-Range Face Recognition:** Contributed to the IARPA BRIAR program by developing methods for face recognition under extreme standoff distances, turbulence, and low-resolution conditions. Supported multi-year program reviews, delivered technical presentations, and advanced real-world recognition performance through improved super-resolution, pose handling, and quality-aware comparison techniques—work that produced multiple peer-reviewed publications.

Reference

Nasser M. Nasrabadi, Professor of Electrical Engineering, West Virginia University, Email: nasser.nasrabadi@mail.wvu.edu, Phone: +1 304-293-4815, Office: AERB 335, 395 Evansdale Dr, Morgantown, WV 26506, USA.