Date: August- 22- 2025
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**Resume for: Hanieh Ajami**
**Ph.D. student in Computer Science and Engineering**
Lutz, Florida | Hanieh.ajam@moffitt.org | (346)446 0454

## *Education*

**University of South Florida:**

- Ph.D. student in Computer Science and Engineering | Tampa, Florida | Start: December 2025

**Southern Illinois University Edwardsville:**

- M.Sc. Electrical Engineering | GPA: 3.66/4.0. | Edwardsville, IL| August 2022- May 2024

**Dr. Shariati Vocational and Technical University:**

- B.Sc. Electrical and Computer Engineering | GPA: 3.42/4.0. | Tehran, Iran | January 2014 - September 2017

## *Current Academic Position*

**PhD student/Graduate Research Assistant:**

- Department of Machine Learning | Moffitt Cancer Center and Research Institute | Start: December 2025
- Bellini College of Artificial Intelligence, Cybersecurity, and Computing | University of South Florida | Start: December 2025

**Research Advisor:** Dr. Ghulam Rasool, ghulam.rasool@moffitt.org | Dr. John M. Templeton, jtemplet@usf.edu

❖ Developing artificial intelligence with deep learning algorithms for future lung cancer risk prediction using longitudinal data.

## *Previous Academic Position*

**Teaching Assistant:**

- Circuit Analysis II Lab | Department of Electrical Engineering | Southern Illinois University Edwardsville | August 2023 – May 2024
- General and Biological Chemistry Lab | Department of Chemistry| Southern Illinois University Edwardsville | January 2023- May 2023

❖ Introduced lab procedures and materials for successful experiments in lab sessions, evaluated reports/quizzes, and collaborated with instructors.

## *Work Experience*

**Technical Legal Assistant**

- Hawkins Law Office, P.C | Edwardsville, IL | September 2024- November 2024

❖ Developed algorithms for automated legal document drafting, managed database updates and client records, and maintained and enhanced the firm's website and technical infrastructure.

**Electrical Engineer**

- Navid Tejarat Raya | Tehran, Iran | January 2016 – August 2022

❖ Co-founded the company specializing in the online sale of musical instruments and served as President of the Board of Directors with full-time dedication

**English Teacher**

- Quick Professional Institute of Language | Tehran, Iran | August 2018- July 2020

❖ Instructed students in IELTS techniques across all four skills, significantly improving their scores in both General and Academic tests.

## *Volunteer Work Experience*

**CVIPtools MATLAB Toolbox Developer and Data Support**

- Computer Vision and Image Processing Tools lab (CVIPTools) | Southern Illinois University Edwardsville | January 2023 - May 2024

❖ Developed and debugged the Computer Vision and Image Processing (CVIPtools) MATLAB toolbox library and resolved technical issues such as database inconsistencies.

## *Publication:*

- **BetaVAEClassifier vs PCAEClassifier: investigating variational autoencoder and classification for accurate identification of white lesions in multiple sclerosis brain MRIs**, H Ajami, A Mahmud, M Kargar Nigjeh (Mahdi), M Hoque, H Chakradhar, SE Umbaugh, Proceedings of SPIE (13137): Applications of Digital Image Processing XLVI 1313703, 30 September 2024, San Diego, CA. https://doi.org/10.1117/12.3027808
- **Comparative analysis of white matter lesion segmentation in multiple sclerosis patients' MRIs: evaluating the results of FCNN architecture and CVIPtools software on compressed image data**, H Ajami, H Chakradhar, M Kargar Nigjeh (Mahdi), A Mahmud, M Hoque, SE Umbaugh, Proceedings of SPIE (13137): Applications of Digital Image Processing XLVI 1313704, 30 September 2024, San Diego, CA. https://doi.org/10.1117/12.3027815

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- **Comparative analysis of deep learning models for brain tumor classification in MRI images using enhanced preprocessing techniques**, M Kargar Nigjeh, H Ajami, A Mahmud, M Hoque, SE Umbaugh, Proceedings of SPIE (13137): Applications of Digital Image Processing XLVI 1313706, 30 September 2024, San Diego, CA. https://doi.org/10.1117/12.3028318
- **Comparison of performance of two deep learning models for classification of skin lesions using image resampling technique for data augmentation**, A Mahmud, H Ajami, M Hoque, R Silwal, M Kargar Nigjeh, SE Umbaugh, Proceedings of SPIE (13137): Applications of Digital Image Processing XLVI 1313705, 30 September 2024, San Diego, CA. https://doi.org/10.1117/12.3027916
- **Comparative evaluation of two algorithmic methods to enhance autonomous vehicle vision through de-raining imagery techniques,** H Ajami, M Kargar Nigjeh (MAHDI), M Kargar Nigjeh (MAHSA), SE Umbaugh, Proceedings of SPIE (13137): Applications of Digital Image Processing XLVI 131370G, 30 September 2024, San Diego, CA. https://doi.org/10.1117/12.3027823
- **Land cover classification of satellite images using deep learning**, M Hoque, A Mahmud, R Silwal, H Ajami, M Kargar Nigjeh, SE Umbaugh, Proceedings of SPIE (13137 Applications of Digital Image Processing XLVI 131370L, 30 September 2024, San Diego, CA. https://doi.org/10.1117/12.3028330
- **Automated classification of white matter lesions in multiple sclerosis patients' MRI images using gray-level enhancement and deep learning**, M Kargar Nigjeh, H Ajami, SE Umbaugh, Proceedings of SPIE (12674): Applications of Digital Image ProcessingXLVI, August 20-24, 2023, San Diego, CA, http://dx.doi.org/10.1117/12.2688269
- **Unsupervised white matter lesion identification in multiple sclerosis (MS) using MRI segmentation and pattern classification: a novel approach with CVIPtools**, H Ajami, M Kargar Nigjeh, SE Umbaugh, Proceedings of SPIE (12674): Applications of Digital Image Processing XLVI, August 20-24, 2023, San Diego, CA, http://dx.doi.org/10.1117/12.2688268

## *Skills*

- Computer Vision and Image Processing algorithms
- Python
- MATLAB
- Deep Learning and Machine Learning
- Natural Language Processing
- Theory of Algorithms