Mehdi Yazdani-Jahromi

(407) 810-4467
Orlando, Fl
yazdani@ucf.edu

Computer Science Ph.D. Candidate

GitHub: yazdanimehdi
Website: yazdanimehdi.com

RESEARCH INTERESTS

Transformers, Graph Neural Networks, Computational Drug Discovery, Large Language Models, Attention's Alternative Architecture, Algorithmic Fairness

SKILLS

Programming Languages	Python • C++ • C# • Bash • Dart(Flutter) • MATLAB • JavaScript • SQL • Solidity
Tools	Docker • Git • LaTeX • HTML • CSS • LINGO • GAMS • AWS • Kubernetes
Python Packages	Pytorch • Numpy • Pandas • Keras • TensorFlow • Scikit-learn • Scipy • Networkx • iGraph • DGL • Matplotlib • Seaborn • Django • Flask
JavaScript Frameworks	Vue js, Electron, NativeScript
Quantitative Research	Deep Learning • Machine Learning • Data Mining • NLP • Computer Vision • Large Language Models • Cloud Computing • Optimization • Mathematical Modeling

EDUCATION

Ph.D. in Computer Science   **Jan 2021 – Present**
University of Central Florida   *Orlando, Florida*

- GPA: 3.94

M.S. in Computer Science   **Jan 2021 – Aug 2023**
University of Central Florida   *Orlando, Florida*

- GPA: 3.9

M.S. in Industrial Engineering   **2017 – 2019**
Sharif University of Technology   *Tehran, Iran*

- GPA: 3.88

B.S. in Industrial Engineering   **2013 – 2017**
Isfahan University of Technology   *Isfahan, Iran*

- GPA: 3.58

RESEARCH EXPERIENCE

Graduate Research Assistant   **Aug 2021 — Present**
Human Centered AI Research Lab   *Orlando, FL*

- Computational Drug Discovery
- Computational Social Science
- Algorithmic Fairness

Data Science Intern, AI/ML for Drug Discovery   **May 2024 — Nov 2024**
Johnson and Johnson   *Titusville, NJ*

- Computational Drug Discovery
- Geometric Learning
- Genomics Sequence Modeling
- Distributed Training
- Training Large Language Models
- Generative AI

Research Assistant   **Sep 2018 — Dec 2019**
Sharif University of Technology   *Tehran, Iran*

- Graph Clustering
- Data Driven Decision making

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HONORS AND AWARDS

featured in News4Jax1 and ABC News for AI drug discovery project.	2023
30000$ Amazon Research Credit Award for CoViT project.	2023
Nominated for Order of Pegasus award (the most prestigious award a student can attain at the University of Central Florida)	2022
Invited to Golden Key International Honor Society	2021
Outstanding Graduate Fellowship, University of Central Florida	2021
Ranked 1st in Iranian national entrance exam for M.Sc. of industrial engineering among near 15000 participants	2017

PUBLICATIONS

HELM: Hierarchical Encoding for mRNA Language Modeling (Nuerips 2024 Workshop AIDrugX)(Submitted to ICLR 2025) link: Arxiv

FairContrast: Enhancing Fairness through Contrastive learning and Customized Augmenting Methods (Submitted to AAAI 2025)

FairBiNN: BiLevel optimization for neural networks for fairness Pareto solutions (NeurIPS 2024) link: Arxiv

DeepDrugDomain: Easy-to-use drug-target affinity/interaction prediction package for architecture design link: GitHub

Learning Fair Representations: Mitigating Statistical Dependencies. (International Conference on Human-Computer Interaction 2024) link: Springer

FragXsiteDTI: Revealing Responsible Segments in Drug-Target Interaction with Transformer-Driven Interpretation (RECOMB 2024 and Neurips 2023 Workshop on New Frontiers of AI for Drug Discovery and Development) link: Arxiv

Controlling the misinformation diffusion in social media by the effect of different classes of agents (The Computational Social Science Society of the Americas Annual Conference) link: Arxiv

Agent-Based Modeling of C. Difficile Spread in Hospitals: Assessing Contribution of High-Touch vs. Low-Touch Surfaces and Inoculations' Containment Impact (The Computational Social Science Society of the Americas Annual Conference) link: Arxiv

Through a fair looking-glass: on mitigating bias in image datasets (AAAI 2023 Workshop on Representation Learning for Responsible Human-Centric AI) link: Springer

BindingSiteAugmented DTA to enable A Next-Generation Pipeline for Interpretable Prediction Models in Drug-Repurposing (Briefings in Bioinformatics) link: BiB

AttentionSiteDTI: Attention Based Model for Predicting Drug-Target Interaction Using 3D Structure of Protein Binding Sites (Briefings in Bioinformatics) link: BiB

UnbiasedDTI: Mitigating Real-World Bias of Drug-Target Interaction Prediction by Using Deep Ensemble-Balanced Learning (MDPI Molecules) link: MDPI Molecules

PRESENTATIONS

Research in Computational Molecular Biology (RECOMB) 2024 Proceedings Talk (Boston, USA)	April 30, 2024
The TMS Annual Meeting & Exhibition 2024 (Orlando, USA)	March 5, 2024
Poster Presentation Neurips 2023 (New Orleans, USA)	December 15, 2023
The Materials Science & Technology (MS&T) technical meeting and exhibition(Colombus, USA)	October 3-4, 2023

CERTIFICATES

Machine Learning Specialization	Stanford University & DeepLearning.AI
Python Fundamentals	Tehran University
Advanced Python	Tehran University

ACADEMIC SERVICES

Reviewed for Journal: Briefings in Bioinformatics
Reviewed for Computational and Structural Biotechnology Journal
Reviewd for IEEE Transactions on Neural Networks and Learning Systems Journal
Served as Program Committee for AAAI Artificial Intelligence for Social Impact 2025.

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TEACHING EXPERIENCE

Teaching Assistant (CAP 5610 - Machine Learning)   **Spring 2024**
University of Central Florida   *Orlando, Florida*

- Data Handling (Pandas, Numpy)
- Classical Machine learning methods (Scikit-learn)
- Deep Learning (Pytorch)

Teaching Assistant (STA 6714 - Data Preparation)   **Fall 2023**
University of Central Florida   *Orlando, Florida*

- Data cleaning and preparation using Python (Pandas, Numpy, Scipy)

Guest Lecturer (Project in Data Analytics)   **Fall 2022**
University of Central Florida   *Orlando, Florida*

- Introduction to Computer Vision

SELECTED COURSES

3D Computer Vision - A	Fall 2022
Advanced Artificial Intelligence - A	Fall 2022
Computer Architecture - A	Fall 2022
Complexity Theory - A	Spring 2022
Design and Analysis of Algorithms - A	Spring 2022
Computer Vision - A	Fall 2021
Mathematical Models in Deep Learning - A	Fall 2021
Experimental Design and Methods - A	Spring 2021

REFERENCES

- Dr.Ozlem Ozmen - Assistant Professor at University of Central Florida
- Dr. Mangal Prakash - Senior Scientist, AI/ML at Johnson & Johnson (Janssen R&D)
- Dr. Artem Moskalev - Research Scientist at Johnson & Johnson (Janssen R&D)
- Dr.Garibay - Associate Professor at University of Central Florida