

Fatima Mazdarani

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Education

Clemson University, Ph.D. in Computer Science

Jan 2025 - Present

- **Research:** Optimization Techniques In Deep Learning
- GPA: 4.0/4.0

University of Tehran, B.Sc. in Computer Engineering

Aug 2018 - Jun 2023

- GPA: 3.5/4.0

Research Interests

Deep Learning , Optimization, and Data Mining

- My research interest is in designing and developing scalable machine learning algorithms for real-world applications, such as natural language processing, cybersecurity, and bioinformatics.

Honors and Awards

- Ranked 79 in the National University Entrance Exam in Iran (among more than 300,000 participants), 2018
- Accepted in First Round of Iranian National Math Olympiad (9% Acceptance Rate), 2015-2016

Skills

- **Programming Languages** | Python, Matlab, JAVA, C/C++ , R, Assembly(Intel x86, MIPS)
- **Scripting Languages** | HTML(Bootstrap), CSS, JavaScript(React), SQL, LaTeX, Bash
- **Machine Learning Tools** | Keras, Tensorflow, PyTorch, NumPy, matplotlib
- **Deployment Tools** | Git, Docker, Maven
- **Hardware Tools** | Arduino, ModelSim, Intel Quartus Prime, LTspice, Proteus circuit simulator

Test Scores

GRE General | 324 (Quantitative Reasoning: 170, Verbal Reasoning: 154)

Oct 2023

IELTS Academic | Overall 8 (Reading 9, Listening 8, Writing 7, Speaking 7.5)

Nov 2023

Research and Projects

- **Optimization Methods for Large-Scale Machine Learning**, This work focuses on finding efficient large-scale machine learning algorithms for solving fundamental problems in numerical optimization and data analysis. 2025-Now
- **Scalable Randomized Spectral Co-Clustering for Document-Word Matrices**, Developed randomized algorithms to improve the scalability of spectral co-clustering techniques for large text corpora. 2025
- **Implementation and Evaluation of Hybrid Quantum Deep Learning and Variational Quantum Classifier-Based Models for Botnet DGA Attack Detection**, This work explored the application of quantum machine learning to DGA detection in cybersecurity. 2025
- **Sparse Spectral Clustering**, This research was focused on solving the optimization problem for Sparse Spectral Clustering using ADMM. 2025
- **A Multi-Platform Voice Recognition System Activator in Persian Language**, Using Keras and TensorFlow Libraries in Python Language to train an RNN model, Bachelor's Thesis, Prof. H. Faili, 2022-2023.
- **Gradient Descent Cost Optimization**, part of a research on Optimization methods, Using Python and PyTorch Library, 2023.
- **Launching a Movie Information Management System**, Using Maven, Git, Unit Testing, JSON, SQL, REST API, JAVA, React, Tomcat, Course Project, Prof. E. Khamespanah, 2022
- **CNN Acceleration By Removing Zero-Valued Neurons**, Research Paper for the Course "Research and Technical Presentation," Prof. M. Modarressi, 2022
- **Zero Trust: A New Security Approach**, Research for the Course "Research and Technical Presentation," 2022
- **Launching a Smart Irrigation System**, Using Data transfer protocols and Proteus and Arduino IDE for simulating sensors and electric motors, Project of the Course "Real-Time Embedded Systems," Prof. M. Modarressi, 2022
- **Implementation of a Surface Scanner on Android, Using Java and Android Studio**, Project of the Course "Real-Time Embedded Systems," Prof. M. Modarressi, 2022
- **A Use of SIMD instructions for IP Acceleration**, Using C++ and Intel SIMD instructions, Project of the Course "Parallel Programming," Prof. S. Safari, 2021
- **Wireless Channel Analysis**, Using Matplotlib and Numpy in Python, Project of the Course "Introduction to Wireless Networks," Prof. P. Shariatpanahi, 2021

Teaching Service

Teaching Assistant for Design Analysis of Algorithms, Clemson University	Spring 2025
Teaching Assistant for Engineering Probability and Statistics, University of Tehran	Fall 2021
Teaching Assistant for Discrete Mathematics, University of Tehran	Fall 2019 - Spring 2021

References

Dr. Heshaam Faili, Professor at the University of Tehran	hfaili@ut.ac.ir
Dr. Siamak Mohammadi, Associate Professor at the University of Tehran	smohamadi@ut.ac.ir