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 is on 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

In Progress / Under Review

- **Scalable Spectral Co-Clustering of Word-Document Matrices Using Randomized Techniques.** Submitted to ICDM 2025 (under review).
- **Efficient Sparse Spectral Methods via ADPMM-Based Optimization.** In preparation.
- **Optimizer Design for Efficient LLM Fine-Tuning.** In preparation.

Past Projects and Course Work

- **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

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