

Mohammad Hossein Najafi

Tehran, Iran

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[Google Scholar](#) - [LinkedIn](#) - [GitHub](#)

EDUCATION

Sharif University of Technology

B.Sc in Electrical Engineering

GPA: 3.16/4

Tehran, Iran

Sep 2018 - Jul 2024

Allame Helli 2 (NODET)

Higher Secondary Education, Math and Physics

18.3/20

Tehran, Iran

Sep 2018 - Sep 2014

RESEARCH INTERESTS

Artificial Neural Networks, Deep Learning, CNN, Internet of Things, Embedded Systems, Parallel Programming.

Publications

- Najafi, M. H.**, Morsali, M., Vahediahmar, M., & Bagheri Shouraki, S. (2024). "DFT-Based Adversarial Attack Detection in MRI Brain Imaging: Enhancing Diagnostic Accuracy in Alzheimer's Case Studies". Manuscript in preparation. Available on arXiv: [arXiv:2408.08489](#).
- Najafi, M. H.**, Sharifimehr, M.A., & Ahmadi, S. (2024). "Low-Power LoRa End Device for Real-Time Angle Computation". Manuscript in preparation.

RELATED PROJECTS

Artificial Creatures Lab (ACL)

Bachelor Project

- Classification and Detection with Deep Networks.
- Enhancing CNN Robustness for Detecting Alzheimer's MRI scans against Adversarial Attacks

ERI IoT Lab

Research Project

- Design and develop IoT devices based on LoRa and Zigbee Tech.
- IoT Platform and Network Specialist

Artificial Neural Networks

Course Project and Assignments

- [Hebb](#), [Perceptron](#), [SOM](#), and more in Neural Networks
- [Improving CNN Predictions on Low-Similarity Datasets](#)

Parallel Programming

Course Projects

- [Fast Fourier Transform \(FFT\)](#)
- [Block Matrix Multiplication](#)
- [Heat Transformation Simulation](#)

Embedded and Realtime Systems

Course Project

- [Implemented a server for streaming live video using GStreamer and HLS](#)

⁰The violet-colored texts are links; you can click them for further information.

¹References: [Dr. Saeed Bagheri Shouraki](#), [Dr. Siavash Ahmadi](#)

TEACHING EXPERIENCE (Volunteering, Unpaid)

| | |
|---|---|
| Teacher Assistant <i>Deep Learning</i> | Tehran University of Medical Sciences <i>Oct 2024 - Present</i> |
| Teacher Assistant <i>Generative Models</i> <i>Parallel Programming</i> | Sharif University of Tech. <i>Sep 2024 - Present</i> <i>Sep 2023 - Present</i> |
| Head of Teaching Assistant Team <i>Computer Architecture and microprocessors</i> <i>Fundamentals of Cryptography and Network Security</i> <i>Security in Internet of Things</i> | Sharif University of Tech. <i>Feb 2024 - Jul 2024</i> <i>Feb 2024 - Jul 2024</i> <i>Sep 2023 - Feb 2024</i> |
| laboratory Teaching Assistant <i>Logic Circuits, Computer Architecture, Pulse Technique</i> | Sharif University of Tech. <i>Feb 2023 - Feb 2024</i> |

SKILLS

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|-----------------------------|--|
| Python | Pytorch, Numpy, Pandas, YOLO, ... |
| Linux OS | GNU Toolchain, Embedded Linux, Uclinux, ... |
| Programming Language | C/C++, Python, Assembly, Cuda |
| Electronic Softwares | Keil, Altium Designer, CubeMX, ESP IDF, Proteus, PSpice, MATLAB,.. |
| General Tools | LaTeX, Beamer, Microsoft Software (Word, Excel, Power Point,..) |
| Soft Skills | To lead , Organizing and Planning, Presenting, Problem-solving |

RELATED COURSES

| | | |
|--|-------------------|----------------|
| Neural Networks | Dr. Bagheri | 20 out of 20 |
| Python Programming Laboratory | Dr. Hashemi | 20 out of 20 |
| Parallel Programming and Architecture | Dr. Hashemi | 17.5 out of 20 |
| Convex Optimization II | Dr. Shah-Mansouri | 16 out of 20 |
| Security in IoT | Dr. Ahmadi | 16 out of 20 |
| Computer Structure and Microprocessor | Dr. Bagheri | 18.9 out of 20 |

AWARDS AND ACHIEVEMENTS

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|--|--------------------|
| National Universities Entrance Exam Ranked 225th among 180,000 participants. | <i>2018 summer</i> |
| Accepted in First Ranked University in Iran With a fully funded scholarship | <i>2018 summer</i> |
| National Chemistry Olympiad Bronze Medal | <i>2017 summer</i> |

LANGUAGES

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|----------------|----------------------------------|
| English | Professional working proficiency |
| Persian | Native proficiency |

NON-ACADEMIC ACTIVITIES & INTERESTS

- Ex-member and Manager of the department football team (champions at the university tournament under my leadership)
- Movies (Marvels, DC, Netflix, ...) and Musics