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## HIGHLIGHTS

- **Communication Engineer:** 2+ years of professional experience in developing, simulating, and deploying wireless communication networks.
- **Machine Learning and Deep Learning Researcher:** 3+ years of research and experience in ML, DL, and reinforcement learning (RL).
- **Digital Image and Signal Processing Researcher:** 2+ years of research in digital image processing using DL.
- **Educator:** 2+ years of teaching experience in Computational Intelligence, DSP, and Communication Systems.
- **Programmer:** 4+ years of programming experience in Python, MATLAB, Linux, Git, and more.

## RESEARCH INTERESTS

- Wireless Communications
- Computer Vision
- Reinforcement Learning
- Digital Signal Processing
- Deep Learning

## EDUCATION

### B.Sc. of Electrical Engineering

 [Amirkabir University of Technology](#)  
2019-2024

- GPA: 3.7/4
- Major: Electrical Engineering (Communication Engineering)
- Minor: Computer Science
- Thesis:
  - Self-Organizing Network Coordination using Deep Reinforcement Learning
  - A User-Centric Energy-Saving Method for Dynamic 5G Heterogeneous Networks Using Deep Reinforcement Learning
  - Supervisor: [Professor Abbas Mohammadi](#)

## PUBLICATIONS

- [M.A. Arami, E. Rasti, and A. Mohammadi, "A User-Centric Energy-Saving Method for Dynamic 5G Heterogeneous Networks Using Deep Reinforcement Learning," IEEE Transaction on Mobile Computing, 2025 \(Published\)](#)
- [E. Rasti, M.A. Arami, A. Mohammadi, "Energy-Saving for User-Centric Dynamic 5G HetNets Using DRL Method", IEEE 16th International Conference on Information and Knowledge Technology \(IKT\) 2025 \(Under Review\)](#)
- [E. Rasti, M. Arami, A. Mohammadi, "Self-Organizing Network Coordination CRE, MRO, and eICIC Parameters Optimization: Deep Reinforcement Learning Framework for Heterogeneous Networks" \(In progress\)](#)

## TEACHING EXPERIENCE

- **Instructor, [Digital Signal Processing Laboratory](#)** - Fall 2023, Spring 2025  
◦ Supervisor: [Dr. Hamzeh Beyranvand](#)
- **Teaching Assistant, Introduction to Computational Intelligence** – Fall 2023, Fall 2024  
◦ Supervisor: [Dr. Farzaneh Abdollahi](#)
- **Teaching Assistant, [Analog Communication Systems \(Applicable MATLAB\)](#)** - Fall 2022  
◦ Supervisor: [Dr. Hamzeh Beyranvand](#)

*Amirkabir University of Technology*

WORK EXPERIENCE

Wireless Communication Engineer

2+ years in development and deployment of 4G, 5G, and Cell-Free Massive MIMO networks.

AUT-Wireless Research  
Lab.  
Dec 2022 - Present

- Supervisor: Professor Abbas Mohammadi

Computer Vision Engineer

Medical Image Processing using Deep Learning

AUT Internship  
Jun 2022 - Jan 2023

- MRI and CT scan Image clustering and recommending
- Supervisor: Dr. Hamzeh Beyranvand

PROJECTS

 Amirkabir University of Technology

Communication Networks

- |   |                     |
|---|---------------------|
| • Access Point Selection techniques in Cell-Free Massive MIMO Networks  | Aug 2024 - Oct 2024 |
| • Access Point Location Determination in Cell-Free Massive MIMO Networks                                      | Jul 2024 - Sep 2024 |
| • Reconfigurable Intelligent Surface Assisted Multiuser MISO Systems Exploiting Deep Reinforcement Learning   | Apr 2024 - Jul 2024 |
| • A User-Centric Energy-Saving Method for Dynamic 5G Heterogeneous Networks Using Deep Reinforcement Learning | Dec 2023 - Aug 2024 |
| • Self-Organizing Network Coordination using Deep Reinforcement Learning                                      | Jan 2023 - Apr 2024 |

Computer Vision

- |   |                     |
|---|---------------------|
| • MRI and CT-Scan Image Classification and Clustering using Deep Learning | Jun 2022 - Feb 2023 |
| • Ecotourism Recommender System Based on Machine Learning - Advisor       | Dec 2023 - Jan 2025 |
| • Face Recognition on MS-CELEB Dataset                                    |                     |
| • Face Detection using OpenCV   |                     |

Arch Linux System Configuration for Research and Development

- Highly Customizable Linux environment Based on Hyprland
- Detailed Documentations for Linux Setup

SELECTED COURSES

Amirkabir University of  
Technology

Communications

- |  |           |
|--|-----------|
| • Mobile Communications                | Score: A+ |
| • Digital Signal Processing Laboratory | Score: A+ |
| • Communication Systems                | Score: A  |
| • Computer Networks                    | Score: A+ |
| • Signals & Systems                    | Score: A+ |

Machine Learning

- |   |           |
|---|-----------|
| • <u>Data Mining</u>  | Score: A+ |
| • <u>Introduction to Machine Learning</u>   | Score: A+ |
| • <u>Introduction to Computational Intelligence</u>   | Score: A+ |
| • <b>Self-studied Books:</b>  |           |
| ◦ <b>Deep Learning</b> with Python by François Chollet  |           |
| ◦ <b>Deep Reinforcement Learning</b> in Action by Alexander Zai and Brandon Brown   |           |
| ◦ <b>Hands-On Machine Learning</b> with Scikit-Learn and TensorFlow: Concepts, Tools, and Techniques to Build Intelligent Systems by Geron Aurelien |           |
| ◦ Introduction to Machine Learning with Python by <u>Andreas C. Müller</u> , <u>Sarah Guido</u>   |           |

## SKILLS

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- **Programming/Scripting:** Python, MATLAB, Linux Bash Script (Ubuntu, [Arch Linux](#), Debian), C, C++, LaTeX, PowerShell, VHDL
- **Frameworks:** PyTorch, Tensorflow, OpenAI Gym, Scikit-Learn
- **IDEs/Tools:** VS Code, MATLAB, Neovim, tmux, PyCharm, Advanced Design System, Proteus (PDS), CodeVisionAVR, Altium Designer, Xilinx ISE, Vivado

## HONORS AND AWARDS

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- Ranked **15th** Electrical Engineering, among **more than 120** students, Amirkabir University of Technology, Tehran, Iran
- Ranked **81st** among over **15,000** participants in the university master's entrance exam, 2024
- Ranked **631st** among over **270,000** participants in the university bachelor's entrance exam, 2019
- Participated in RoboCup IRAN OPEN 2016 Competitions April 6-8 Tehran, Iran
  - League: Junior Soccer Open
  - **8th place** among 50 participants
  - Team: Robo RS

## LANGUAGE SKILLS

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- English: Native
  - TOEFL: Scheduled for 19 November
- Persian: Native

## REFERENCES

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- Prof. Abbas Mohammadi
  - Supervisor ([abm125@aut.ac.ir](mailto:abm125@aut.ac.ir))
- Dr. Farzaneh Abdollahi
  - Computational Intelligence Lab. Supervisor ([f\\_abdollahi@aut.ac.ir](mailto:f_abdollahi@aut.ac.ir))
- Dr. Hamzeh Beyranvand
  - Internship and DSP Lab. Supervisor ([beyranvand@aut.ac.ir](mailto:beyranvand@aut.ac.ir))