Mohammadmehdi Karami

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EDUCATION

K. N. Toosi University of Technology   Tehran, Iran
B.Sc. in Electrical Engineering (Control Engineering)   Sep. 2021 – Current

EXPERIENCE

Applied Robotics and AI Solutions (ARAS)   Tehran, Iran
Researcher   Nov. 2023 – Current

- Smart Shelf
- Designed PCBs, mechanical components, and MCU firmware for an intelligent shelf system enabling real-time monitoring and automation.
- Retrieval-Augmented Generation (RAG) System
- Developed a RAG pipeline integrating parsing, chunking, retrieval, and LLM-based answer generation.

Self-Employed / Various Clients   Hybrid (Remote / On-site, Tehran, Iran)
Embedded Systems Developer (Freelance)   2022 – Current

- PCB Design
- Designed schematics and 2–4-layer PCBs (Altium).
- Firmware
- Developed C/C++ microcontroller firmware and libraries for AVR, STM32, and ESP32.

TEACHING

- **Teaching Assistant** at K. N. Toosi University of Technology   Sep. 2022 – Feb. 2023
  Engineering Probability (Jafar Heyrani Nobari)
- **Teaching Assistant** at K. N. Toosi University of Technology   Sep. 2022 – Feb. 2024
  Fundamentals of Programming (Mehdi Zamanian)
- **Teaching Assistant** at K. N. Toosi University of Technology   Sep. 2023 – Feb. 2024
  Digital Systems II (Saeed Khankalantary)
- **Teaching Assistant** at K. N. Toosi University of Technology   Feb. 2024 – Jul. 2024
  Fundamentals of Programming (Hamed Khanmirza)
- **Teaching Assistant** at K. N. Toosi University of Technology   Sep. 2024 – Feb. 2025
  Fundamentals of Programming (Maryam Kouhzadi)
- **Teaching Assistant** at K. N. Toosi University of Technology   Sep. 2024 – Current
  Microprocessor Systems (Roohollah Yarmand)
- **Teaching Assistant** at K. N. Toosi University of Technology   Feb. 2025 – Sep. 2025
  Microprocessor Systems Laboratory (Roohollah Yarmand)
- **Teaching Assistant** at K. N. Toosi University of Technology   Sep. 2025 – Current
  Basic Artificial Intelligence (Mahdi Aliyari Shorehdeli)

Skills

- **Programming:** C/C++, Python, MATLAB
- **MCU Development:** AVR, STM32, Arduino
- **Soft Skills:** Public Speaking, Time Management

Extracurricular Activities

- Member of the Student Committee at ICRoM 2022   Nov. 2022
  The 10th RSI International Conference on Robotics and Mechatronics
- Member of the Editorial Board at Impluse (Talangor) Journal   Mar. 2023 – Current
  The Journal of K. N. Toosi University of Technology Electrical Scientific Association