NIMA SAMADI

nisamd.github.io ◇ github.com/nisamd

RESEARCH INTERESTS

- Edge Computing
- Embedded Systems
- Internet of Things (IoT)
- Autonomous Vehicles

EDUCATION

PhD Candidate, Electrical Engineering 2026 - present
Sharif University of Technology Tehran, Iran

Master of Science, Electrical Engineering 2022 - 2025
Sharif University of Technology Tehran, Iran
GPA: 18.97/20

Bachelor of Science, Electrical Engineering 2018 - 2022
Sharif University of Technology Tehran, Iran
GPA: 18.72/20

RESEARCH EXPERIENCE

DVFS and Computation Offloading 03/2024 – 12/2024
Supervisor: Dr. Hamed Shah-Mansouri
Paper published in IEEE Access Journal

- Proposed a joint computing offloading and DVFS algorithm.
- Utilized deep reinforcement learning to design the algorithm.
- Reduced multi-core mobile device energy consumption.

Multi-agent Computation Offloading 09/2023 – 01/2025
Supervisor: Dr. Hamed Shah-Mansouri and Dr. Babak Khalaj
Master's Thesis

- Worked on computation offloading in multi-agent scenario.
- Investigated DNN model inference on embedded systems.
- Implemented offloading algorithm based on multi-agent PPO.

EdgeMLOPS Framework 05/2022 – 01/2024
Supervisor: Dr. Babak Khalaj
Smart and Secure Edge-Cloud Lab Research Project

- Developed and implemented an MLOps framework demo for embedded devices.
- Worked on on-device model fine-tuning.

Real-time Face Detection on Embedded Systems 09/2021 – 05/2022
Supervisor: Dr. Matin Hashemi
Bachelor's Project

- Implemented a face detection DNN model on the NVIDIA Jetson TX2 device.
- Utilized model and framework-independent approaches, such as ONNXRuntime.

TEACHING EXPERIENCE

Deep Learning Fall 2024
Sharif University of Technology Tehran, Iran
Grader and project design

Real-time Embedded Systems Spring 2023, Spring 2024
Sharif University of Technology Tehran, Iran
Grader and project design

Data Network Spring 2024
Sharif University of Technology Tehran, Iran
Grader and project design

Digital Logic Systems Fall 2021
Sharif University of Technology Tehran, Iran
Teaching assistant

AWARDS

Direct Masters Admission from Sharif University of Technology 03/2022

Second Excellent Bachelor's Project Award 06/2022

SELECTED COURSES

Graduate

- Data Networks (20.0/20.0)
- Game Theory (19.0/20)
- Introduction to Reinforcement Learning (18.3/20.0)
- Statistical Learning (20.0/20.0)
- Deep Learning (18.2/20.0)
- Advanced Computer Architecture (18.0/20.0)

Undergraduate

- Convex Optimization (20.0/20.0)
- Microprocessor System Design (20.0/20.0)
- Machine Learning (18.5/20.0)
- Embedded Systems (18.7/20.0)
- ASIC and FPGA System Design (20.0/20.0)
- Computer Structure (18.0/20.0)

SELECTED PROJECTS

Game Theory Spring 2023
Deferred Acceptance (DA) Algorithm
- Implemented DA algorithm for a patient-hospital matching scenario in Python.

Deep Learning Fall 2023
Car Classifier
- Trained and implemented a car classifier in Python and C++ using ONNXRuntime.

Embedded Systems Spring 2022
Home Automation System
- Developed a home automation system capable of managing cameras and microphones in C++.

Embedded Systems Spring 2022
CPU Scheduling Simulation
- Simulated RM and EDF scheduling algorithms for periodic tasks in Python.

ASIC and FPGA System Design Spring 2021
CORDIC Tanh
- Implemented Tanh function utilizing the CORDIC algorithm on FPGAs in Verilog.

SKILLS

Languages C++, C, Python (PyTorch, Gym, PettingZoo, ONNX), Matlab, Simulink, CUDA, Bash Script
Tools Linux, Git, Docker, Jenkins

VOLUNTEER EXPERIENCE

Electrical Engineering Faculty Magazine Editor 09/2021 - 06/2022

Philosophy Studies Club Organizer 06/2020 - 06/2021

High School Physics and Mathematics Teacher 03/2019 - 01/2020

LANGUAGES

- **English:** Fluent, TOEFL iBT Degree
  Overall: 109, (R: 27, L: 29, S: 24, W: 29)
- **Persian:** Native