

Reza Adinepour

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RESEARCH INTERESTS

- ◇ AI Hardware Accelerators
- ◇ Reconfigurable Computing
- ◇ High Level Synthesis
- ◇ Machine Learning
- ◇ Neural Networks and Deep Learning
- ◇ Cyber-Physical Systems(CPS)
- ◇ Real-time and Embedded Systems

EDUCATION

M.Sc. in Computer Engineering, Sep. 2023 - Present
Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran

- Thesis: “*FPGA-Based Hardware Acceleration of Remaining Useful Life Prediction of Rotating Machinery Using Transformer Neural Network*”
- Advisor: [Prof. Morteza Saheb Zamani](#)
- GPA: 3.4/4

B.Sc. in Electrical Engineering, Sep. 2019 - Jun. 2023
Shahrood University of Technology, Shahrood, Iran

- Thesis: “*Design Real Time Face Recognition Systems Based on LBP Features on ODROID-XU4 Embedded Computer Board*”
- Advisor: [Prof. Alireza Ahmadyfard](#)
- GPA: 3.4/4

Diploma in Mathematics and Physics Discipline, Sep. 2015 - May. 2019
S.A. Khomeini High School, Mashhad, Iran

- Diploma GPA: 3.9/4

ATTENDED CONFERENCES


- ◇ *The Annual Conference on Prospects of Electrical Engineering* ([ReACT2025](#))
- ◇ *The Annual Conference on Prospects of Electrical Engineering* ([ReACT2023](#))
- ◇ *The Annual Conference on Prospects of Electrical Engineering* ([ReACT2022](#))
- ◇ *5th Iranian Conference on Communications Engineering* ([ICCE2021](#))
- ◇ *The Annual Conference on Prospects of Electrical Engineering* ([ReACT2021](#))
- ◇ *Amirkabir University of Technology Robotics Summer School* ([AUTSS2021](#))

RESEARCH COLLABORATIONS

- ◇ **FPGA-Based Hardware Acceleration of Transformer Neural Network** Aug. 2023 - Now
Research Assistant, Supervisor: [Prof. Morteza Saheb Zamani](#), Department of [Computer Engineering](#), Amirkabir University of Technology.
 - *Studies and research focused on **Transformer hardware acceleration***
I am conducting research on the implementation and acceleration of Transformer neural networks on FPGA with the goal of time series forecasting.
- ◇ **Real Time Embedded Face Recognition System** Sep. 2022 - Jun. 2023
Research Assistant, Supervisor: [Prof. Alireza Ahmadyfard](#), Department of [Electrical Engineering](#), Shahrood University of Technology.
 - *Studies and research focused on **LBP Features***
I design an embedded systems that can detect and recognition human face, based on LBP features. This algorithm implement on **Odroid** embedded computer.

TEACHING EXPERIENCE

Teaching Assistant-Amirkabir University of Technology

- **Embedded Systems Modeling & Design**  Spring 2025

◦ **Digital Logic Design**  Fall 2024

Invited Lecturer-Amirkabir University of Technology

- **Computer Architecture Lab**  Spring 2025
- **Logic Circuits Lab**  Spring 2024
- **Logic Circuits Lab**  Fall 2023

Teaching Assistant-Shahrood University of Technology

- **Digital Electronics** Spring 2023
- **Signal and Systems** Spring 2023, Fall 2022, Spring 2022, Fall 2021
- **Analog Electronic** Fall 2022
- **Circuit Theory** Fall 2020, Spring 2020

Tutor-Shahrood, Iran

- **Private Altium Designer Tutor** Apr. 2023 - Aug. 2023












Tutor-Mashhad, Iran






- **Private Python Programming Tutor** 2021 - Jan. 2022
- **Private MATLAB Programming Tutor** 2021 - Jan. 2022
- **Private C and C++ Programming Tutor** 2020 - Jan. 2022

HONORS AND
AWARDS

- ◊ **Direct Admission** of Master's Degree at **Amirkabir University of Technology (Tehran Polytechnic)**
- ◊ **Ranked 2nd (top 1%)** in Department of Electrical Engineering, Shahrood University of Technology, **Among More Than 120 Students.** 2023
- ◊ **Chief of Student Scientific Association** of Electrical Engineering 2022

NOTABLE
PROJECTS

- ◊ **FPGA-Based Implementation of CNN Using High Level Synthesis (HLS)** 
- ◊ **Edge Detector HW/SW Co-design on FPGA** 
- ◊ **HLS-Based Implementation of Vision Transformer (ViT)** 
- ◊ **FPGA-Based Implementation of Neural Network** 
- ◊ **QRS Complex Detection in ECG Signals** 
- ◊ **Design Real Time Face Recognition Systems Based on LBP Features on ODROID Embedded Computer Board** 
Bachelor Thesis, Shahrood University of Technology, Shahrood, Iran
- ◊ **Real Time Object Detection Using YOLO Network** 
Course Project for Neural Networks, Shahrood University of Technology, Shahrood, Iran
- ◊ **Real Time Face Mask Detection Using MobileNetV2** 
Course Project for Neural Networks, Shahrood University of Technology, Shahrood, Iran
- ◊ **Persian Handwritten Digit Recognition Using MLP** 
Course Project for Neural Networks, Shahrood University of Technology, Shahrood, Iran
- ◊ **SDI Based Fire Detection Application** 
Course Project for Advanced Programming in C++, Shahrood University of Technology, Shahrood, Iran
- ◊ **Car Tracking Using C++ & OpenCV** 
Course Project for Advanced Programming in C++, Shahrood University of Technology, Shahrood, Iran

- ◇ **Object Tracking Using Python & OpenCV** 
- ◇ **Real Time Face Recognition Using Python & *Face Recognition Lib*** 
- ◇ **Vehicles Counting on Images Using YOLO** 
- ◇ **License Plate Recognition Using Python & OpenCV** 
- ◇ **Real Time Color Recognition Using Python & OpenCV** 
- ◇ **Design and Implementation of Mano Basic Computer Using VHDL**

WORK
EXPERIENCE

- Member of Digital System Design Automation Laboratory** Aug. 2023 - Present
Tehran, Iran
Job Description: Research Assistant
- R&D department Member, at [D3H-Group](#)** Jun. 2023 - Sep. 2023
Al Maryah Island, Abu Dhabi, UAE
Job Description: Biomedical Signal Processing Developer
- R&D department Member, at [Radan Electronic StartUp](#)** May. 2022 - Aug. 2022
Mashhad, Iran
Job Description: Embedded Software Developer
- R&D department Member, at [Integrated Circuit Laboratory](#)** Jun. 2021 - Sep. 2022
Shahrood, Iran
Job Description: Head of The Hard Ware department on OAE Project

SKILLS

- ◇ **Programming Languages:** C, C++, Python, Nvidia CUDA, OpenMP, Matlab, VHDL, Verilog HDL, HLS
- ◇ **Machine Learning Tools:** PyTorch, TensorFlow, Keras, Scikit-learn, OpenCV, NumPy, Pandas
- ◇ **Applications and Scientific Tools:** Git, Xilinx Vivado, Vitis HLS, Vitis AI, FINN, Xilinx ISE, ModelSim, Gem5, MATLAB, IAR, Keil, CubeMX, Altium Designer, KiCad, Spice, Arduino IDE
- ◇ **Operating Systems:** Linux, Microsoft Windows
- ◇ **Typesetting:** T_EX, L^AT_EX, VIM , Microsoft Word, Gnuplot

LANGUAGES

- ◇ **Persian:** Native Language
- ◇ **English:** Intermediate Listener, Novice Speaker, Advanced Reading and Writing

HOBBIES

- ◇ **Adventure:** Hiking, Hitchhiking, Camping
- ◇ **Art:** Guitarist
- ◇ **Other Hobbies:** Classic Music, Freelance Blog Writer, Reading
I love the feeling of sharing my experiences with others through my blog.