

# Reza Adinepour

Department of Computer Engineering,  
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RESEARCH INTERESTS

- ◇ AI Hardware Accelerators
- ◇ Machine Learning
- ◇ Neural Networks and Deep Learning
- ◇ Signal Processing
- ◇ Cyber-Physical Systems(CPS)
- ◇ Parallel and Distributed Systems
- ◇ Real-time and Embedded Systems

EDUCATION

**M.Sc. in Computer Engineering,** Sept. 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](#)

**B.Sc. in Electrical Engineering,** Sept. 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 Ahmadifard](#)
- GPA: 3.28/4
- GPA of Last 1 Years: 3.43/4 (32 credits)

**Diploma in Mathematics and Physics Discipline,** Sept. 2015 - May. 2019  
**Seyyed Ahmad Khomeini High School,** Mashhad, Iran

- Diploma GPA: 3.66/4

ATTENDED CONFERENCES

- ◇ *The Annual Conference on Prospects of Electrical Engineering* ([ReACT2023](#))
- ◇ *The Annual Conference on Prospects of Electrical Engineering* ([ReACT2022](#))
- ◇ *Rahneshan National competition* ([INEF](#))
- ◇ *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

- ◇ **Real Time Embedded Face Recognition System** Sep. 2022 - Jun. 2023  
**Research Assistant,** Supervisor: [Prof. Alireza Ahmadifard](#), 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.
- ◇ **Otoacoustic Emissions** Jun. 2021 - Sep. 2022  
**Research Assistant,** Supervisor: [Dr. Mohammad Reza Ashraf](#), Department of [Electrical engineering](#), Shahrood University of Technology.
  - *Studies and research focused on **Hard Ware of OAE's***  
Otoacoustic emissions (OAEs) are widely used in universal newborn hearing screening programs. In this Research we are looking for design and implement of OAE device for recognition hearing loss in childrens.

TEACHING EXPERIENCE

**Invited Lecturer-**Amirkabir University of Technology

- [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 2<sup>nd</sup> (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**

- ◊ **QRS Complex Detection in ECG Signals** [</Source>](#)
- ◊ **Design Real Time Face Recognition Systems Based on LBP Features on ODRROID Embedded Computer Board** [</Source>](#)  
Bachelor Thesis, Shahrood University of Technology, Shahrood, Iran
- ◊ **Real Time Object Detection Using YOLO Network** [</Source>](#)  
Course Project for Neural Networks, Shahrood University of Technology, Shahrood, Iran
- ◊ **Real Time Face Mask Detection Using MobileNetV2** [</Source>](#)  
Course Project for Neural Networks, Shahrood University of Technology, Shahrood, Iran
- ◊ **Persian Handwritten Digit Recognition Using MLP** [</Source>](#)  
Course Project for Neural Networks, Shahrood University of Technology, Shahrood, Iran
- ◊ **SDI Based Fire Detection Application** [</Source>](#)  
Course Project for Advanced Programming in C++, Shahrood University of Technology, Shahrood, Iran
- ◊ **Car Tracking Using C++ & OpenCV** [</Source>](#)  
Course Project for Advanced Programming in C++, Shahrood University of Technology, Shahrood, Iran
- ◊ **Object Tracking Using Python & OpenCV** [</Source>](#)
- ◊ **Real Time Face Recognition Using Python & *Face Recognition Lib*** [</Source>](#)
- ◊ **Vehicles Counting on Images Using YOLO** [</Source>](#)
- ◊ **License Plate Recognition Using Python & OpenCV** [</Source>](#)
- ◊ **Real Time Color Recognition Using Python & OpenCV** [</Source>](#)
- ◊ **MFC Based Student Registration Application** [</Source>](#)  
Course Project for Advanced Programming in C++, Shahrood University of Technology, Shahrood, Iran

- ◇ **Sinusoidal Wave Generator Using STM32-F446RE Nucleo Board** [</Source>](#)  
Top Project in OAE Challenge, IC LAB, Shahrood University of Technology, Shahrood, Iran
- ◇ **Design and Implementation of 16-bit ALU Using VHDL** [</Source>](#)
- ◇ **Design and Implementation of STM32-F103-RET6 Development Board Using Altium Designer** [</Source>](#)  
Top mark project in the course of ARM Programming, GARD Academy, Tehran, Iran
- ◇ **Digital lock System With RFID Option Using AVR Microcontroller** [</Source>](#)  
Course Project for Microprocessor, Shahrood University of Technology, Shahrood, Iran
- ◇ **Implementation of isolated Smart Relay Control Board Using AVR Microcontroller**  
Top mark project in the course of AVR Programming, GARD Academy, Tehran, Iran
- ◇ **Implementation of Room Temperature Controller Using ARM Microcontroller**  
Course Project for Microprocessor, Shahrood University of Technology, Shahrood, Iran
- ◇ **Design and Implementation of AT-Mega32 Based Development Board Using Altium Designer**  
Course Project for Microprocessor, Shahrood University of Technology, Shahrood, Iran
- ◇ **Design and Implementation of AT-Mega128 Based Development Board Using Altium Designer**  
Top mark project in the course of AVR Programming, GARD Academy, Tehran, Iran

WORK  
EXPERIENCE

- Member of Digital System Design Automation Laboratory** Aug. 2023 - Present  
Tehran, Iran  
*Job Description:* Research Assistant
- R&D department Member, at Fin Company** Jun. 2023 - Sep. 2023  
Tehran, Iran  
*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, Matlab, VHDL, HLS, Verilog HDL, Arduino, LabVIEW
- ◇ **Machine Learning Tools:** PyTorch, TensorFlow, Keras, Scikit-learn, OpenCV, NumPy, Pandas
- ◇ **Applications and Scientific Tools:** Xilinx Vivado, Vitis HLS, Vitis AI, FINN, Xilinx ISE, Gem5, Matlab, IAR, Keil, CubeMX, CodeVision AVR, ModelSim, Altium Designer, KiCad, ADS, Spice, Proteus, Atmel Studio, Arduino IDE, Microsoft Visual Studio, Git, JetBrains Pycharm & Clion
- ◇ **Operating Systems:** Linux(Ubuntu), Unix, Microsoft Windows
- ◇ **Typesetting:** T<sub>E</sub>X, L<sup>A</sup>T<sub>E</sub>X, 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.