Reza Adinepour

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Research Interests

- ◇ Machine Learning
- ◇ Neural Networks and Deep Learning
- ◇ Digital Signal and Image Processing
- ◇ Computer Vision
- ◇ Pattern Recognition
- ◇ AI Hardware Acceleration
- ◇ Real-time Embedded Systems

Education

M.Sc. in Computer Engineering, Sept. 2023 - Present
Amirkabir University of Technology (Tehran Polytechnique), Tehran, Iran
- ○ Thesis: *"Coming soon"*
- ○ 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

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

- **Acceptance** of Master's Degree Without Entrance Exam **With Brilliant Talent** at **Amirkabir University of Technology (Tehran Polytechnique)**
- **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

- **Design Real Time Face Recognition Systems Based on LBP Features on ODROID 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

R&D department Member, at Fin Company Jun. 2023 - Present
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, Verilog HDL, Arduino, LabVIEW
- **Machine Learning Tools:** PyTorch, TensorFlow, Keras, Scikit-learn, OpenCV, NumPy, Pandas
- **Applications and Scientific Tools:** Xilinx Vivado, Xilinx ISE, 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:** TEX, LATEX, 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.