

# Rouzbeh Pirayadi

Computer Engineering student

[Homepage](#) 

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## EDUCATION

### Sharif University of Thechnology

Bachelor of Science in COMPUTER ENGINEERING

Department of Computer Engineering

Tehran, Iran  
CGPA = 19.73/20  
ranked 5/200  
September 2019 - Present

### Allameh Helli High School

Diploma of Mathematics and Physics

Tehran, Iran  
CGPA = 19.93/20  
July 2016 - June 2019

## RESEARCH INTERESTS

AI accelerators, Process in memory, Non-volatile memories, Computer Architecture

## RESEARCH EXPERIENCE

### Process in memory for hyperdimensional computing

March 2023 - Present

I have been participating in a project under supervision of Nezam Rohbani and Prof. Hamid Sarbazi-Azad. The goal of the project is to make hyperdimensional operations possible in different memories, mostly DRAM.

## WORK EXPERIENCE

### Software developer at Onyxlabs

June 2022 - August 2022

I worked as a software developer for my internship program at Onyxlabs, specialized in genetic data analysis.

## HONORS AND AWARDS

### Direct Master Admission

I got admitted to AI/ML M.Sc. with Brilliant Talent Award.

### Top Student in UEE

I was ranked 80 in University Entrance Exam (UEE aka konkour) among  $\approx 15,000$  participants

### Student at NODET

I was admitted to NODET (National Organization for Development of Exceptional Talents)

## SKILLS

### Programming Languages:

Java, Python, C, C++ ,SQL, Swift, Racket, html, css

### Libraries & tools:

Quartus, Hspice, Pytorch, Torchhd, NLTK, Proteus, Xilinx, Verilog, Numpy, Pandas, Django, PostgreSQL, SQLite

## PROJECTS

### Computer Architecture Project

March 2021 - April 2021

Simulating a mips like single cycle processor using the schematic section of quartus  
Quartus, Verilog

[Available on](#) 

### Digital System Design Project

May 2021 - July 2021

Designing a matrix multiplier for IEEE754 Single Precision floating point using verilog  
Verilog, Xilinx

### Embedded Systems Project

April 2022 - June 2022

A complete system (including a mobile app) to monitor the temperature and humidity of a pot  
Arduino, Raspberry pi, Flutter

### Data and Network Security Project

June 2023 - July 2023







A completely secure chat app, including end-to-end encryption and forward and backward secrecy  
Python, Crypto

[Available on](#) 

### Advanced Information Retrieval Project

November 2021 - March 2022

Implementing A simple IR system with index compression and spell correction  
Python, NLTK, Pandas, [Hazm](#)

<b>Operating Systems Project</b> Implementing a multi-threaded http server using C language C, Python, Http	January 2023 - February 2023 <a href="#">Available on </a>
<b>Advanced Programming Project</b> An online store, Ranked 2 <sup>nd</sup> among 50 teams Java, JavaFX, SQLite, Maven	April 2020 - July 2020 <a href="#">Available on </a>
<b>Analysis and Design of Systems Project</b> Building a website using Django similar to google drive Django, Python, html, css	June 2022 - August 2022 <a href="#">Available on </a>
<b>Mobile Programming Project</b> A mobile application to control employees' working hours and set meetings Android, Java, SQLite	June 2022 - July 2022 <a href="#">Available on </a>
<b>Computer Simulation Project</b> Simulating an M/M/1 Queue Python, Numpy	December 2021 - January 2022 <a href="#">Available on </a>
<b>Basic Programming Project</b> A console chat application and server C, cJSON, Socket Programming	October 2019 - December 2020 <a href="#">Available on </a>

## TEACHING ASSISTANT

Artificial Intelligence, Prof. Mohammad Hossein Rohban	fall 2023
Embedded Systems, Prof. Mohsen Ansari	fall 2023
Operating Systems, Prof. Hossein Asadi	fall 2023
Programming language, Prof. Mohammad Izadi	fall 2023
Numerical Computation, Prof. Samira Hossein Ghorban	fall 2023
Artificial Intelligence, Prof. Mohammad Hossein Rohban	spring 2023
Embedded Systems, Prof. Mohsen Ansari	spring 2023
Linear Algebra, Prof. Hamid R. Rabiee/ Prof. Maryam Ramezani	spring 2023
Computer Structure & language, Prof. Hossein Asadi	fall 2022
Embedded Systems, Prof. Mohsen Ansari	fall 2022
Linear Algebra, Prof. Hamid R. Rabiee/ Prof. Maryam Ramezani	fall 2022
Linear Algebra, Prof. Hamid R. Rabiee/ Prof. Maryam Ramezani	spring 2022
Logic Design, Prof. Laleh Arshadi	fall 2021

## NOTABLE COURSES

• Computer Architecture	20/20	• Operating Systems	20/20
• Artificial Intelligence	20/20	• Machine Learning	20/20
• Computer Structure and Language	20/20	• Database Design	19.6/20
• Advanced Information Retrieval	20/20	• Game Theory	20/20
• Linear Algebra	20/20	• Engineering Probability and Statistics	19.6/20
• Data Structures and Algorithms	20/20	• Embedded Systems	20/20

## LANGUAGES

ENGLISH:	Fluent	toefl score: 109 (r:28, l:28, s:25, w:28)
PERSIAN:	Native	
GERMAN:	Beginner	