Rouzbeh Pirayadi

Computer Engineering student

Homepage ⬀   Email ✉   Github ⌂

EDUCATION

Sharif University of Thechnology   Tehran, Iran
Bachelor of Science in COMPUTER ENGINEERING   **CGPA = 19.73/20**
                                                                                                ranked 1/190

Department of Computer Engineering   September 2019 - Present

Allameh Helli High School   Tehran, Iran
Diploma of Mathematics and Physics   **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 - November 2023
I participated in research under the supervision of Dr. Nezam Rohbani and Prof. Hamid Sarbazi-Azad. In this project, a novel in-memory technique in DRAM was proposed. The aforementioned technique massively accelerates hyperdimensional inference operation.

PUBLICATION

M.A. Soleimani, N. Rohbani, R. Pirayadi, A. Cristal, O. Unsal, and H. Sarbazi-Azad, "RAPIDRAM: A Rapid In-DRAM Accelerator," submitted to ISCA, 2024

WORK EXPERIENCE

Software developer at Onyxlab   June 2022 - August 2022

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

HONORS AND AWARDS

Direct Master Admission
I got admitted directly without an entrance exam to AI/ML M.Sc. with the Brilliant Talent Award.
Top Student in UEE
I was ranked 80 in the University Entrance Exam (UEE a.k.a 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 Retreival Project — November 2021 - March 2022
Implementing A simple IR system with index compression and spell correction
Python, NLTK, Pandas, Hazm

Operating Systems Project — January 2023 - February 2023
Implementing a multi-threaded http server using C language — Available on
C, Python, Http

Advanced Programming Project — April 2020 - July 2020
An online store, Ranked 2nd among 50 teams — Available on
Java, JavaFX, SQLite, Maven

Analysis and Design of Systems Project — June 2022 - August 2022
Building a website using Django similar to google drive — Available on
Django, Python, html, css

Mobile Programming Project — June 2022 - July 2022
A mobile application to control employees' working hours and set meetings — Available on
Android, Java, SQLite

Computer Simulation Project — December 2021 - January 2022
Simulating an M/M/1 Queue — Available on
Python, Numpy

Basic Programming Project — October 2019 - December 2020
A console chat application and server — Available on
C, cJSON, Socket Programming

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	