# Negar Karami

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## 🎓 EDUCATION

| | |
|---|---|
| 2018 – 2023 | **B.Sc Computer Engineering**<br>Cumulative GPA: **17.88**/20 (**3.80**/4.00)<br>GPA of Last two Years: **3.95**/4.00<br>*Department of Computer Engineering*<br>*Amirkabir University of Technology* |
| 2018 – 2014 | **Preuniversity & Diploma in Mathematics**<br>GPA: **19.40**/20<br>*Reyhana Al-Rasool High School* |

## 💼 TEACHING EXPERIENCE

SPRING 2023

### Embedded and Real-Time Systems Course
***Teaching Assistant***

Under the supervision of Dr. Hamed Farbeh

SPRING 2023

### Network Course
***Teaching Assistant***

Under the supervision of Dr. Masoud Sabaei

SPRING 2023

### Signals and Systems Course
***Teaching Assistant***

Under the supervision of Amir Khakpour

FALL 2022 - SPRING 2023

### Internet of Things (IoT) Course
***Head Teaching Assistant***

Under the supervision of Dr. Siavash Khorsandi

FALL 2022

### Internet Engineering Course
***Teaching Assistant***

Under the supervision of Parham Alvani

SPRING 2022

### Signals and Systems Course
***Teaching Assistant***

Under the supervision of Dr. Atefe Termehchy

FALL 2021

### Microprocessor and Assembly Language Course
***Teaching Assistant***

Under the supervision of Dr. Hamed Farbeh

## 🏢 WORK EXPERIENCE

SUMMER 2022

### Farzanegan Saee Data Processing Company
***Internship***

Gained knowledge and practical skills in creating web-based solutions and applications.

## 🖥 TECHNICAL SKILLS

| | |
|---|---|
| PROGRAMMING LANGUAGES | C, Java, Python, Go, C++ |
| WEB DEVELOPMENT | HTML5, CSS3, JavaScript, React |
| FRONT-END FRAMEWORKS | Bootstrap, Tailwind CSS |
| WEB APIS | REST API, GraphQL |
| DATABASE | SQL, Postgresql, Redis |
| HARDWARE DESCRIPTION | VHDL, Verilog |
| NETWORK ANALYSIS | Wireshark, Ping Plotter, Postman |
| VIRTUALIZATION & CONTAINERIZATION | VMware Workstation, Docker |
| EMBEDDED SYSTEMS & ELECTRONICS | Arduino, Proteus, OrCAD, Modelsim, Xilinx ISE |
| OTHER TOOLS | MATLAB, Git, GitHub, LaTeX |

## 🏆 HONORS AND AWARDS

**Member of the Honor Students**
*Amirkabir University Honor Students Office*

**High Honor and Top-Ranking Recognition**
*Amirkabir University Honor Students Office*

**Ranked in the Top 1.5% in the Nationwide University Entrance Exam for B.Sc**
*National Organization of Educational Testing (NOET)*

**Second place in the Regional Ranking at the Khwarizmi Youth Award (KYA)**
*Iranian Research Organization for Science and Technology*

**Third place in the Regional Basketball Tournament**
*Ministry of Education*

**Certificate of Honor in Math Kangaroo**
*International Mathematical Kangaroo*

## 📓 SELECTED COURSES

| | | |
|---|---|---|
| Algorithm Design: | 20.00 | **(A+)** |
| Computational Intelligence: | 20.00 | **(A+)** |
| Computer Networks: | 18.90 | **(A+)** |
| Software Engineering (I): | 19.00 | **(A+)** |
| Database Design: | 19.60 | **(A+)** |
| Information Retrieval: | 18.55 | **(A+)** |
| Signals & Systems: | 18.25 | **(A+)** |
| Internet of Things: | 18.81 | **(A+)** |
| Microprocessor & Assembly Language: | 19.41 | **(A+)** |
| Embedded & Real-Time Systems: | 20.00 | **(A+)** |
| Computer Architecture: | 17.00 | **(A)** |
| Operating Systems: | 17.91 | **(A)** |
| Data Structures & Algorithms: | 16.29 | **(A)** |
| Applied Linear Algebra: | 16.60 | **(A)** |

## 💬 LANGUAGE SKILLS

| | |
|---|---|
| **Persian:** | Native |
| **English:** | TOEFL score of **90** |

| *Reading* | *Listening* | *Speaking* | *Writing* |
|---|---|---|---|
| 22 | 26 | 23 | 19 |

## 🏥 VOLUNTARY ACTIVITIES

**Certificate of First Aid Training**
*Iranian Red Crescent Society*

**Member of the Red Crescent Youth Organization**
*Iranian Red Crescent Society*

## </> SELECTED ACADEMIC PROJECTS

**Information Retrieval System (from Scratch):** *(GitHub🔗)*

Implemented a powerful search engine tailored for Persian news, featuring advanced functionalities such as vector-based ranking and clustering techniques. This engine delivers efficient and accurate search results customized to user queries. (</>Python)

**Recognizing Handwritten Digits (from Scratch):** *(GitHub🔗)*

Trained an Artificial Neural Network (ANN) by Mini-batch Gradient Descent. (</>Python)

**Evolutionary Game:** *(GitHub🔗)*

Trained an Artificial Neural Network (ANN) by Evolutionary Algorithm. (</>Python)

**XV6 OS Projects (Kernel programming):** *(GitHub🔗)*

Enhanced XV6 OS with new system calls, waiting queue, dispatcher, and unit operations. (</>C)

**Internet of Things Projects:** *(GitHub🔗)*

Developed a set of IoT projects using the Arduino IDE and simulated with Proteus. (</>C++)

**Course Website:** *(GitHub🔗) (Website🔗)*

As the TA for the IE course, I designed this website as a front-end assignment for the students. (</>HTML, SCSS)

**Music Identification (from Scratch):** *(GitHub🔗)*

Implemented a music identification program utilizing Fourier transform, similar to a simplified version of Shazam. (</>Python)

**Image Compression (from Scratch):** *(GitHub🔗)*

Employed linear algebra and SVD decomposition to compress BMP photos. (</>Python)

**Image Contrast Enhancement (from Scratch):** *(GitHub🔗)*

Improved image quality by enhancing contrast using histogram equalization to evenly distribute colors. (</>Python)

**Denoising Bitcoin's Price Graph (from Scratch):** *(GitHub🔗)*

Utilized linear algebra and the least-squares technique to denoise Bitcoin's price graph. (</>Python)

**The Pac-Man Project:** *(GitHub🔗)*

Solved problems in search algorithms, multi-agent systems, and reinforcement learning. (</>Python)

## 💡 BACHELOR PROJECT THESIS

**Design and implementation of a financial management system for savings fund**

In response to the current **financial challenges** faced by individuals, who often resort to loans with high interest rates, the idea of establishing a family/apartment complexes savings fund has emerged as an alternative solution. However, the management and accounting methods of such funds have been difficult and time-consuming, leading to potential errors and the need for a professional accountant. To address these issues, I developed a web application that **automates** the **management, accounting, and fund operations** of savings fund. This app aims to streamline and **automate financial transactions, eliminate the need for experts, and provide a user-friendly environment**. It also takes into account annual inflation, ensuring proportional growth of members' savings. Additionally, **an ascending system for loan allocation was implemented**, allowing members to borrow between 2.5 and 3 times their savings balance. This comprehensive solution seeks to enhance the accessibility and efficiency of financial management in various segments of society. (**</>Go, React.js, Bootstrap, PostgreSQL, SQLC, REST API, Gin, PASETO, Redis**)

## 👥 REFERENCES

**Dr. Hamed Farbeh**
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