Negar Karami

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EDUCATION

2018 – 2023 **B.Sc Computer Engineering**
Cumulative GPA: **17.88**/20 (**3.80**/4.00)
GPA of Last two Years: **3.95**/4.00
Department of Computer Engineering
Amirkabir University of Technology

2018 – 2014 **Preuniversity & Diploma in Mathematics**
GPA: **19.40**/20
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+)**
Principles & of Artificial Intelligence:	17.80 **(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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