

Matin Monshizazdeh

Shiraz University | Shiraz | Iran

+98(917)503-2292

matinmonshizadeh@gmail.com

[matin monshizadeh](https://www.linkedin.com/in/matin-monshizadeh)

[matinmonshizadeh](https://github.com/matinmonshizadeh)

EDUCATION

Shiraz University

Graduate, B.Sc. in Computer Engineering

Shiraz, Iran

2020 - 2024

Emamreza High-school

Diploma in Mathematics and Physics Discipline, 19.47/20

Shiraz, Iran

2017 - 2020

RESEARCH INTERESTS

- Computer Vision
- Computer Graphics
- Image Processing
- Machine Learning

RESEARCH & TECHNICAL EXPERIENCES

APPLIED RESEARCH ENGINEER IN COMPUTER VISION *Deed Asia Development Group Ltd*

Present

In collaboration with the Canadian company Aerialytic, I work on Computer Vision, Image Processing, Computer Graphics, and Remote Sensing projects involving RGB aerial photos of urban areas, focusing on houses with gable roofs. My tasks include working with models such as Depth Anything V2 and YOLO, extracting and labeling edges, segmenting structures, using image processing techniques to make RGB images resemble Digital Surface Models (DSMs), and 3D reconstruction of a house roof.

3D MOUNTAIN SIMULATION: PREDICTING FLOOD PATHS *Academic Research*

Jun 2024 - Sep 2024

This research simulates 3D terrain, predicts flood paths, and calculates water volume using real-world elevation data in Python. Delaunay triangulation models the terrain, while gradient-based methods predict water flow. The results show water accumulation in lower elevations, such as valleys and flat areas, visualized through 3D terrain plots, flood paths, and a heatmap of accumulated water volume.

PROJECTS

PREDICTING MOBILE PRICES *Linear Algebra*

Jul 2024

Extracts data from an e-commerce site, cleans it, trains a linear regression model to predict mobile prices, and includes a Tkinter-based app for price prediction based on mobile features. [Github](#)

PAC-MAN *Computer Graphics*

Jul 2024

Pac-Man game in Python and OpenGL with ghost AI using a greedy algorithm, collision detection, teleporting pathways, and dynamic gameplay where Pac-Man can eat ghosts after power-ups. [Github](#)

DIABETES PREDICTION *Artificial Intelligence*

Jul 2023

A user-friendly desktop application implemented with Python that utilizes a logistic regression model to predict the probability of a user's diabetes based on their inputted information. [Github](#)

SMART HOME *Microprocessors*

Jul 2023

Implemented and simulated a simple, smart home with C programming language with three main objectives: Security, Temperature Control, and Lighting Control using ATmega32 microcontrollers and SPI protocol to transmit data. [Github](#)

IMAGE COMPRESSION & STEGANOGRAPHY *Design and Analysis of Algorithms*

Feb 2023

Implemented Huffman coding for image compression and used LSB algorithm for steganography and programming these with Python. [Github](#)

PSEUDO INSTAGRAM *Object Oriented Programming*

Feb 2021

Implementation of Pseudo Instagram with Java programming language and Using JOptionPane for GUI. [Github](#)

SUDOKU SOLVER *Fundamentals of Programming*

Feb 2020

Implemented Sudoku Solver with Python programming language and used Pygame library for an interface. [Github](#)

VOLUNTEER EXPERIENCE

TEACHING ASSISTANT *Department of Computer Engineering* Sep 2023 - Jan 2023
Teaching Assistant in Database Design Principles and Operating Systems courses.

WEB DEVELOPER *Freelancer* Dec 2022 - Jun 2024
Managed the web development team for the Rody Plus online shop (rodyplus.com) and worked as a front-end developer for Abrak Studio (abrak.studio).

7TH HOUR OF CODE EVENT *Organized by ACM Association of Shiraz University* Mar 2022 - Jul 2022
Head of an informatics group, worked on frontend development with Vue.js and Vuetify frameworks and supervised the other parts of the informatics group. Also taught Python to students. Website: hocshirazu.ir

TEACHING ASSISTANT *Department of Computer Engineering* Feb 2022 - Jun 2022
Teaching Assistant in Fundamentals of Computer and Programming (Python) and Object Oriented Programming (Java) courses.

CS:GO TOURNAMENT *Organized by ACM Association of Shiraz University* Jan 2022 - Feb 2022
Tournament organizer for CS:GO (Counter-Strike: Global Offensive) competitions at Shiraz University, featuring eight teams. These events included live match streaming and comprehensive reports. Notably, some of Iran's top players participated in the tournament.

HONORS AND AWARDS

NATIONAL MATHEMATICS AND PHYSICS UNIVERSITY ENTRANCE EXAM
Top 0.9% among over 155,000 participants.

SKILLS

PROGRAMMING LANGUAGES: Python, C, C++, Java, R, SQL and familiar with Verilog and Assembly (x86 assembly).

WEB DEVELOPMENT: JavaScript, HTML, CSS. Experienced in Vue.js, Angular, Vuetify, Bootstrap, and jQuery web frameworks.

RELEVANT COURSES: Have worked on Statistics and Probability, Numerical Analysis, Linear Algebra, Graph Theory and Algorithms, Artificial Intelligence, Computer Graphics, Database Design Principles, Operating Systems, and the Theory of Languages & Automata, and familiar with Operations Research and Evolutionary Computation.

OTHER TECHNOLOGIES : Git, LaTeX, and some Python libraries such as NumPy, Pandas, Matplotlib, OpenGL, Open3D, Scikit-learn, TensorFlow, PyTorch, SciPy, Pygame, Tkinter, Selenium, Pillow, and OpenCV.




LANGUAGES

- Persian: Native
- English: **TOEFL (Overall: 81)**

HOBBIES

- Working out at the gym
- Playing video games
- Analyzing and translating music lyrics ([Genius](https://www.genius.com))

REFERENCES

- [Dr. Ali Hamzeh](#), Professor of Computer Science @ Shiraz University.
 ali@cse.shirazu.ac.ir
- [Dr. Mostafa Fakhrahmad](#), Assistant Professor of Computer Science @ Shiraz University.
 mfakhrahmad@gmail.com
- [Dr. Morteza Keshtkaran](#), Assistant Professor of Computer Science @ Shiraz University.
 morteza.keshtkaran@gmail.com