

Mohammad Mehdi Afkhami Aqda

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📄 Mohammad-Mehdi-Afkhami

Education

Vali-e-Asr University of Rafsanjan

Rafsanjan, Iran

B.Sc. Computer Engineering

2018–Present

- Last 60 credits GPA without calculating summer semester: 16.6/20
- CGPA: 16.1/20, 131 credits
- Major Area: Software Engineering.
- Thesis: Solving community detection problem using evolutionary algorithm in social networks
- Thesis grade: -/20

Publications

- Fahimeh Dabaghi-Zarandi, **Mohammad Mehdi Afkhami**, Mohammad Hosein Ashoori, Parsa KamaliPour, Mohammad Amin Ahmadi, "Solving community detection problem using evolutionary algorithm in social networks" (*will be submitted soon*)
- Fahimeh Dabaghi-Zarandi, Mohammad Hosein Ashoori, Parsa KamaliPour, Mohammad Amin Ahmadi, **Mohammad Mehdi Afkhami**, "A deep learning approach to community detection." (*in preparation*)

Experience

Research

Undergraduate Research Assistant ✉

Rafsanjan, Iran

Department of Computer Engineering, Vali-e-Asr University of Rafsanjan

Jan 2022–Present

- Supervisor: Dr. Fahimeh Dabaghi-Zarandi
- Field: Community Detection
- My responsibilities include: Gathering information, Reading papers, Programming, Testing the solution, Writing first draft of the paper.

Teaching

Undergraduate Teaching Assistant

Rafsanjan, Iran

CE Department, Vali-e-Asr University of Rafsanjan

Mar 2021–Present

Design and Analysis of Algorithms

▶ Dr. Fahimeh Dabaghi-Zarandi Fall 2022, Spring 2022, Fall 2021, Spring 2021

Data Structures

▶ Dr. Fahimeh Dabaghi-Zarandi Fall 2022, Spring 2022, Fall 2021, Spring 2021

Artificial Intelligence

▶ Dr. Amir Hossein Hadjhamadi Fall 2022

Database

▶ Dr. Mojtaba Sabbagh-Jafari Fall 2022

Fundamentals of Programming

▶ Dr. Amir Hossein Hadjhamadi Fall 2022

Discrete Mathematics

▶ Dr. Fahimeh Dabaghi-Zarandi Fall 2021, Spring 2022

Operating Systems

▶ Dr. Fahimeh Dabaghi-Zarandi Spring 2022

Instructor for The Summer Coding Bootcamp

Vali-e-Asr University Scientific Association of Computer Engineering

Summer 2022

Teaching game development & software architecture using Unity3D & Blender

Others.....
Team Co-Founder & Game Developer
Null References [↗](#) , *Indie Game Development Team* *Feb 2020–Present*

Research Interests

- Computer Graphics ○ Simulation ○ Crowdsourcing
- Machine Learning ○ Procedural Content Generation ○ Virtual Reality

Selected Relevant Coursework

Computer Graphics: 20/20 Advance Programming: 20/20 Discrete Mathematics: 18.36/20 ★ <i>Click here to see more</i> ↗	Data Structure: 19.67/20 Artificial Intelligence: 20/20 Software Engineering: 18/20
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Selected Projects

Uncertainty [↗](#) *Feb 2021–Present*
An action-adventure space-shooter game

We utilized software architecture principles such as design patterns and agile methodologies to overcome challenges which included management of artistic and programming aspects of the game. At the moment, the game is in development

OpenGL Game [↗](#) *Spring 2020*
A 3D game made using OpenGL

Developed skills in writing C++ code for OpenGL and its shading language, as well as knowledge of 3D object formats

Automata Simulator [↗](#) *Spring 2020*
Simulator that supports DFA, DPDA, and Turing machines, for educational purposes

The logic was implemented using an observer pattern and the user interface was based on simple bezier curves

Multiple projects regarding to Artificial Intelligence course [↗](#) *Fall 2021*
Implementation of:

BFS, DFS, IDS, UCS (uninformed search strategies), 8 puzzle solver using A-star & IDA (informed heuristic search strategies), Genetic algorithms, Simulated annealing (local search), Min-Max, Alpha–Beta (adversarial search), classification of a dataset (basic machine learning), Knowledge representation using prolog

Multiple projects regarding to Design and Analysis of Algorithms course [↗](#) *Fall 2020*
Implementation of:

The closest pair of points problem, Convex hull, Sudoku solver, Tournament scheduler, Huffman coding, Bellman–Ford, Matrix chain multiplication, N-Queens solver, Travelling salesman problem

Symmetry [↗](#) *Spring 2020*
A game made using Unity

game was designed to test our short-term memory for visual information

Quine McCluskey [↗](#) *Spring 2019*
Implementation of:

the Quine McCluskey minimization method for boolean functions, windows presentation form was used for user interface

Multiple projects regarding to Data Structures course [↗](#) *Fall 2019*
Implementation of:

Maze & Rat, Red-Black tree, AVL tree, Trie dictionary, Sparse matrix

★ [Click here to see more projects](#) ↗

Test Scores

TOEFL: 88

Extra Curricular Activities

Member of Teaching Assistant Committee

Vali-e-Asr University Scientific Association of Computer Engineering

Jul 2022–Present

Vali-e-Asr University of Rafsanjan

President of Executive Staff

Video Games Association

Oct 2020–Jun 2021

Vali-e-Asr University of Rafsanjan

Member Of Scientific Committee

Computer Engineering Scientific Association

May 2019–Jun 2021

Vali-e-Asr University of Rafsanjan

Computer skills

Art & Game Development: Unity, Blender, Krita, Godot(basic) **Programming Languages:** C, C++, C#, Python, MATLAB, Java, SQL, CSS

Frameworks & Libraries: OpenGL, Numpy, Pandas, Matplotlib **Software Engineering:** Refactoring , Debugging, Unit Testing, Agile Methodology, Design patterns, SOLID

Tools: Jupyter Notebook, L^AT_EX, Git, Markdown, Linux, Obsidian, MS Office **Soft Skills:** Team Work, Collaboration, Teaching, Research, Problem Solving

Languages

Persian: Native language

English: Fluent

References

Available upon Request