

# Mohammad Mehdi Afkhami Aqda

Yazd – Iran

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📄 Mohammad-Mehdi-Afkhami

## Education

### Vali-e-Asr University of Rafsanjan

Rafsanjan, Iran

B.Sc. Computer Engineering

2018–2023

- Last 60 credits GPA without calculating summer semester: 16.82/20
- CGPA: 16.26/20, 142 credits
- Major Area: Software Engineering.
- Thesis: Solving community detection problem using evolutionary algorithm in social networks
- Thesis grade: 20/20

### Generative Deep Learning with TensorFlow

Coursera

Certificate

2023

- Education provider : DeepLearning.AI
- Skills : Deep Learning, Generative AI, TensorFlow
- Credential ID : JDQKWCDQADSV ↗

### Intermediate Machine Learning

Kaggle

Certificate

2023

- Education provider : Kaggle
- Skills : Machine Learning, Python, scikit-learn
- Link: ↗

## Publications

- Iman Hemati Moghadam, **Mohammad Mehdi Afkhami**, Parsa Kamalipour, Vadim Zaytsev, "Extending Refactoring Detection to Kotlin: A Dataset and Comparative Study" (*accepted*)
- Fahimeh Dabaghi-Zarandi, **Mohammad Mehdi Afkhami**, Mohammad Hosein Ashoori, "Solving community detection problem using evolutionary algorithm in social networks" (*submitted*)

## Experience

### Research

Remote

Department of Computer Engineering, University of Twente

Aug 2023–Present

- Supervisor: Dr. Iman Hemati Moghadam
- Field: Software Refactoring
- My responsibilities include: Programming, Testing the Tool, Refactoring validation.

Rafsanjan, Iran

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

Apr 2022–Jan 2023

- 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–Jan 2023

#### Artificial Intelligence

▶ Dr. Amir Hossein Hadjhamadi

Fall 2022

|  |  |
|--|--|
| ► <b>Design and Analysis of Algorithms</b> |  |
| ► <i>Dr. Fahimeh Dabaghi-Zarandi</i>       | <i>Spring 2022, Fall 2021, Spring 2021</i> |
| ► <b>Data Structures</b>                   |  |
| ► <i>Dr. Fahimeh Dabaghi-Zarandi</i>       | <i>Spring 2022, Fall 2021, Spring 2021</i> |
| ► <b>Discrete Mathematics</b>              |  |
| ► <i>Dr. Fahimeh Dabaghi-Zarandi</i>       | <i>Fall 2021, Spring 2022</i>              |
| ► <b>Operating Systems</b>                 |  |
| ► <i>Dr. Fahimeh Dabaghi-Zarandi</i>       | <i>Spring 2022</i>                         |

### **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**

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- Machine Learning
- Procedural Content Generation
- Computer Graphics

## **Selected Relevant Coursework**

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**Computer Graphics:** 20/20

**Data Structure:** 19.67/20

**Advance Programming:** 20/20

**Artificial Intelligence:** 20/20

**Discrete Mathematics:** 18.36/20

**Software Engineering:** 18/20

★ *Click here to see more [↗](#)*

## **Selected Projects**

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### **Uncertainty [↗](#)**

*An action-adventure space-shooter game*

*Feb 2021–Present*

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 [↗](#)**

*A 3D game made using OpenGL*

*Spring 2020*

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

### **Automata Simulator [↗](#)**

*Simulator that supports DFA, DPDA, and Turing machines, for educational purposes*

*Spring 2020*

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 [↗](#)**

*Implementation of:*

*Fall 2021*

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 [↗](#)

Implementation of:

Fall 2020

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 [↗](#)

A game made using Unity

Spring 2020

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

### Quine McCluskey [↗](#)

Implementation of:

Spring 2019

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

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

## Test Scores

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TOEFL: 88

## Extra Curricular Activities

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### Member of Teaching Assistant Committee

Vali-e-Asr University Scientific Association of Computer Engineering

Jul 2022–Jun 2023

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

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

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

**Tools:** Jupyter Notebook,  $\LaTeX$ , Git, Markdown, **Soft Skills:** Team Work, Collaboration, Teaching, Linux, Obsidian, MS Office, Research, Problem Solving

## Languages

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**Persian:** Native language

**English:** Fluent

## References

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Available upon Request