

Parsa Kamalipour

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🔗 [eBNZsM0AAAAJ](#)

Education

Vali-e-Asr University of Rafsanjan

B.S. Computer Engineering

Rafsanjan, Iran

Sep 2018–Present

- Last two years GPA without calculating summer semester: 17.37/20 (3.71/4.00)
- CGPA: 16.66/20 (3.419/4) with 124 credits passed so far
- Major Track: Software Engineering.
- Bachelor's Thesis: Community detection in complex network based on an improved random algorithm using local and global network information
- Bachelor's Thesis grade: 20/20 (4.0/4.0)

Publications

- Fahimeh Dabaghi-Zarandi, **Parsa KamaliPour**, "Community detection in complex network based on an improved random algorithm using local and global network information," *Journal of Network and Computer Applications*, vol.206, p.103492, Aug 2022, doi.🔗 Q1, Impact factor: 7.574, link.🔗
- Fahimeh Dabaghi-Zarandi, Mohammad Mehdi Afkhami, Mohammad Hosein Ashoori, **Parsa KamaliPour**, Mohammad Amin Ahmadi, "Solving community detection problem using evolutionary algorithm in social networks" (*in preparation*), link.🔗
- Fahimeh Dabaghi-Zarandi, Mohammad Hosein Ashoori, **Parsa KamaliPour**, Mohammad Amin Ahmadi, Mohammad Mehdi Afkhami, "A deep learning approach to community detection." (*in preparation*), link.🔗

Experience

Research

Undergraduate Research Assistant

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

Rafsanjan, Iran

Aug 2021–Present

- I am researching Community Detection algorithms.
- Under the supervision of Dr. Fahimeh Dabaghi-Zarandi.
- My key role consisted of: Reading and reviewing related papers (Investigation), Implementing ideas in MATLAB and Python (Data curation, Software, Programming), Testing and improving the written code (Validation), Gathering information and writing the initial text for the paper (Writing primary draft preparation).

Teaching

Undergraduate Teaching Assistant

CE Department, Vali-e-Asr University of Rafsanjan

Rafsanjan, Iran

Mar 2021–Present

Introduction to Information Retrieval

▶ Dr. Mojtaba Sabbagh-Jafari, TA (Spring 2022 🔗)

Design and Analysis of Algorithms

▶ Dr. Fahimeh Dabaghi-Zarandi, Head TA (Fall 2022 🔗 , Spring 2022 🔗 , Fall 2021 🔗 , Spring 2021 🔗)

Data Structures

▶ Dr. Fahimeh Dabaghi-Zarandi, Head TA (Fall 2022 🔗 , Spring 2022 🔗 , Fall 2021 🔗 , Spring 2021 🔗)

Database

▶ Dr. Mojtaba Sabbagh-Jafari, Head TA (Fall 2022 🔗)

Fundamentals of Programming

▶ Dr. Amir Hossein Hadjhamadi, Head TA (Fall 2022 🔗)

Artificial Intelligence

▶ Dr. Amir Hossein Hadjhamadi, Head TA (Fall 2022 🔗)

Discrete Mathematics

Dr. Fahimeh Dabaghi-Zarandi, TA (Spring 2022 [↗](#) , Fall 2021 [↗](#))

Operating Systems

Dr. Fahimeh Dabaghi-Zarandi, Grading TA (Spring 2022 [↗](#))

Python & Git & Github Instructor for The Summer Coding Bootcamp [↗](#)

Vali-e-Asr University Scientific Association of Computer Engineering

Rafsanjan, Iran

Summer 2022

Python Private Tutor [↗](#)

Freelance

Kerman, Iran

Summer 2022

Others.....

Team Co-Founder & Game Developer [↗](#)

Null References [↗](#) , Indie Game Development Team

Feb 2020–Present

Research Interests

- Design & Analysis of Algorithms
- Graph Algorithms
- Data Mining
- Algorithmic Game Theory
- Social Networks Analysis
- Theoretical Machine Learning
- Deep Learning Algorithms
- Community Detection
- Stochastic & Randomized Algorithms

Selected Relevant Coursework

Fundamental of Programming: 20/20

Software Engineering Lab: 20/20

Software Engineering: 18.75/20

Digital Logic Design: 19.45/20

Introduction to Data Mining: 17.5/20

★ [Click here to see more](#) [↗](#)

Advance Programming: 16.5/20

System Analysis and Design: 20/20

Design and Analysis of Algorithms: 18/20

Computer Architecture: 18.97/20

Information Retrieval: 18.5/20

Selected Projects

Introduction to Data Mining [↗](#)

Multiple assignments regarding to the Intro to Data Mining course

Spring 2022

Data Pre Processing, Apriori Algorithm, Data Visualization, K-Means, Agglomerative Clustering, DBSCAN, K-Nearest Neighbors Algorithm, Decision Tree, Support Vector Machines, Multi-Layer Perceptron

Multiple projects regarding to Artificial Intelligence course [↗](#)

Designing and 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

SYMPHONYC: The database of a music streaming service similar to Spotify. [↗](#)

One project regarding to the Database course

Fall 2021

Information Gathering, entity-relationship model, Relational Model, SQL codes, connecting the database to Django, analyzing and plotting data via matplotlib

Uncertainty: an action-adventure space-shooter game built with Unity3D [↗](#)

Null References [↗](#)

Spring 2021

○ Uncertainty is an action-adventure space-shooter game, and currently It's under development.

○ We have utilized the beta version of this game as our "Software Engineering Lab" course project.

Two projects regarding to Introduction to Information Retrieval course [↗](#)

Projects:

Spring 2021

The Scrapy Crawler (Crawling), Inverted Index Construction using BSBI Algorithm (Indexing)

Multiple projects regarding to Design and Analysis of Algorithms course [↗](#)

Designing and implementation of:

Fall 2020

The Closest Pair of Points Problem, Sudoku Solver, Tournament Scheduler, Huffman Coding, Bellman–Ford, Matrix Chain Multiplication, N-Queens Solver Traveling Salesman Problem

Multiple projects regarding to Data Structures and Algorithms course [↗](#)

Designing and implementation of:

Fall 2019

the Red-Black Tree, the AVL Tree, the Trie Dictionary, Threaded Binary Tree, the Sparse Matrix via Linked List, the Rat in the maze problem

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

Test Scores

TOEFL: Will be taken at November 19th 2022

GRE: Not taken

Honors and Awards

Ranked 6th among undergraduate students of Computer Engineering

Vali-e-Asr University of Rafsanjan, Entrance Year of 2018

Spring 2022

Awarded by government undergraduate tuition waiver scholarship

Vali-e-Asr University of Rafsanjan

★ [Click here to see more information about me](#) [↗](#)

Extra Curricular Activities

Head of Teaching Assistant Committee [↗](#)

Vali-e-Asr University Scientific Association of Computer Engineering

July 2022–Present

Member of Teaching Staff [↗](#)

Vali-e-Asr Collegiate Programming Contest (VCPC)

Sep 2021–Jun 2022

Scientific Committee Member [↗](#)

Vali-e-Asr University Scientific Association of Computer Engineering

May 2019–Jun 2021

Executive Committee Member [↗](#)

Vali-e-Asr Video Games Association

Oct 2020–Jun 2021

Skills

Programming Languages: C, C++, Python, MATLAB, C#, Java, SQL

Frameworks & Libraries: Qt, Numpy, Pandas, Matplotlib, NetworkX, Scikit-learn, PyTorch

Tools: Jupyter, L^AT_EX, Git, Markdown, Linux, Microsoft office, Obsidian

Software Engineering: Refactoring, Debugging, Unit Testing, Agile mythology, Pattern Design, SOLID

Game Development: Unity

Soft Skills: Team Work, leadership, Collaboration, Teaching, Research, Problem Solving

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

Languages

Persian: Native language

English: Fluent

References

Available upon Request

[September 29, 2022]