Amirhossein Arefzadeh

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EDUCATION AND TRAINING

B.S. in Computer Science and engineering

University of Tehran [01/09/2022 – Current]

City: Tehran | **Country:** Iran | **Website:** https://ece.ut.ac.ir/en/ece

- **GPA:** 18.86 / 20.0 (Faculty Average: 14.96/20)
- **Rank:** Among the top 10%

Highschool Diploma in Mathematics

Ario Mosallanezhad [01/09/2019 – 01/06/2022]

City: Mashhad | **Country:** Iran

- **GPA:** 19.6 / 20.0

INTERESTS

Research Interests

- Algorithms and Data Structures
- Algorithmic Game Theory
- Artificial Intelligence and Machine Learning
- Data Analytics and Data Science

PROJECTS

Connect4 Game Bot
- Developed an intelligent Connect 4 game bot using the Minimax algorithm with alpha-beta pruning to optimize decision-making. Implemented an interactive game interface where the agent competes effectively by predicting and countering opponent strategies. It included customizable depth levels for flexible difficulty levels.

Link: https://github.com/Amir-rfz/Connect-4-Game-Bot

Image Reconstruction with Genetic Algorithms
- Implemented a Python-based genetic algorithm from scratch to recreate target images using triangles. Designed efficient mutation, crossover, and fitness evaluation strategies to achieve high accuracy and convergence in evolutionary image reconstruction.

Link: https://github.com/Amir-rfz/Genetic-algorithm-image-reconstruction

Plants vs Zombies The Game
- This project implements the Plants vs. Zombies game using the Simple and Fast Multimedia Library (SFML), a cross-platform C++ library designed for multimedia applications. It showcases the development of the game, utilizing SFML for handling graphics, audio, and other multimedia components.

Link: https://github.com/Amir-rfz/Plants-vs-Zombies-Game

Search Algorithm Analysis
- This project analyzes BFS, IDS, A*, and Weighted A* search algorithms using the "Lights Out" puzzle. It examines their performance based on the number of explored nodes and solution paths, with detailed Python implementations and performance metrics.

Link: https://github.com/Amir-rfz/search-algorithms

Neural Network From Scratch
- Implementation of a basic neural network from scratch, including layers, activation functions, forward and backward passes, and training on datasets like MNIST and California Housing.

Link: https://github.com/Amir-rfz/Neural-Network-From-Scratch

Text Processing with Bayes Theorem
- This project implements a simple text processing model using Bayes Theorem for text classification. It trains on a dataset and classifies input text based on the learned probabilities, showcasing the effectiveness of Bayesian methods in natural language processing.

Link: https://github.com/Amir-rfz/Text-processing

HONOURS AND AWARDS

Sanjesh Organization
Ranked 813th in Iran's National University Entrance Exam
- among top 0.5% of participants

[01/09/2024] University of Tehran ACM Student Chapter
Certified in Deep Learning course
- Completed UT ACM Summer of Code 2024 Deep Learning Course

VOLUNTEERING

[01/08/2024 – Current] University of Tehran
Advanced Programming Teaching Assistance
- Designing programming assignments
- Writing test cases for assignments
- Receiving and reviewing student submissions
- Collaborating on course journals about programming

[01/08/2024 – Current] University of Tehran
Data Structures and algorithms Teaching Assistance
- Design questions from lesson topics
- Providing correction and feedback on student responses

[01/02/2024 – Current] University of Tehran

Discrete Mathematics Teaching Assistance
- Design questions from lesson topics
- Providing correction and feedback on student responses
- Participating in practice classes and assisting with troubleshooting

[01/08/2023 – 01/02/2024] University of Tehran

Introduction to Computing Systems and Programming Teaching Assistance
- Conducting troubleshooting classes and solving exercises for student
- Record lesson videos for students

[01/08/2024 – Current] University of Tehran

Introduction to Computing Systems and Programming Lab Supervisor
- Guiding students in implementing programming concepts and solving technical issues
- Evaluated lab projects submitted by students and provided detailed feedback.

LANGUAGE SKILLS

Mother tongue(s): Persian

Other language(s):

English

LISTENING B2 **READING** C1 **WRITING** B1

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user