Matin Aghaei

Karaj, Iran — (+98)-9359520112
m.jaffaraghaei@gmail.com — matinaghaei.github.io

OBJECTIVE

A Computer Engineering BSc student, studying in one of the best and oldest universities in Iran, who has achieved a 4 out of 4 major-related GPA. I also participated in the Students Computer Olympiad during high school and advanced to its last nationwide stage.

RESEARCH INTERESTS

- Algorithmic trading
- Reinforcement Learning
- Soft Computing & Computational Intelligence
- Control Systems
- Game Theory

EDUCATION

Bachelor of Science, Computer Science   Sep. 2017 – Sep. 2021 (Expected)
Amirkabir University of Technology [website], Tehran
GPA: 3.86 /4
GPA (Major-related courses): 4 /4
- Robotics: 20 /20
- Information Retrieval: 20 /20
- Artificial Intelligence: 20 /20
- Algorithm Design: 19.5 /20
- Data Structures: 19.75 /20
- Advanced Programming: 20 /20
- Fundamentals of Programming: 20 /20

Thesis: *Portfolio Management Using Actor-Critic Reinforcement Learning* [code]
Advisor: Prof. Ebadzadeh [homepage]

Diploma, Mathematics and Physics   Sep. 2014 – Jun. 2017
the National Organization for Development of Exceptional Talents [website], Karaj

EXPERIENCE

Teaching Assistant, Robotics   Sep. 2020 – Present
Assistant Prof. Javanmardi, Amirkabir University of Technology, Tehran
- Coordinated the teaching assistance team
- Designed assignments projects
- Helped the students with their problems

Teaching Assistant, Computational Intelligence   Sep. 2020 – Present
Prof. Ebadzadeh [homepage], Amirkabir University of Technology, Tehran
- Coordinated the teaching assistance team
- Designed assignments & quizzes
- Helped the students with their problems

Teaching Assistant, Operating Systems   Sep. 2020 – Feb. 2021
Associate Prof. Zarandi [homepage], Amirkabir University of Technology, Tehran

- Designed assignments
- Created problem-solving videos for the students
- Helped the students with their problems

Teaching Assistant, Data Mining   Feb. 2021 – Present
Assistant Prof. Nazerfard [homepage], Amirkabir University of Technology, Tehran
- Coordinated the teaching assistance team
- Designed assignments & projects
- Helped the students with their problems

Back End & Front End Developer   Oct. 2019 – Present
UTOPIA - Software company for organizing agriculture [website], Tehran
- Designed GraphQL schemes in the back-end
- Connected the back end and front end using Apollo GraphQL

Educational Manager   Mar. 2019 – Sep. 2020
Students' Scientific Chapter of Computer Engineering [linkedin], Amirkabir University of Technology, Tehran
- Elected by students of the department
- Organized extracurricular courses and presentations
- Cooperated in holding programming contests

SELECTED COURSE PROJECTS

Robotics
- Implementation of a robot controller which follows oval and spiral paths [code]
- Implementation of a robot controller which constructs an obstacle map using VFH algorithm and avoids the obstacles in a Gazebo environment using a polar histogram [code]

Data Mining
- Implementation of an image compressor (Using K-Means algorithm to reduce the number of colors in an image by clustering them) [code]

Information Retrieval
- Implementation of a search engine for Persian language using inverted index and TF-IDF [code]

Principles of Computational Intelligence
- Implementation of a 2-layer Neural Network [code]
- Implementation of Genetic Algorithm for solving Knapsack [code] and Traveling Salesman [code] problems
- Implementation of Fuzzy C-means Clustering [code]

Principles and Applications of Artificial Intelligence
- Implementation of Natural Language Processing using n-grams [code]
- Implementation of Genetic Algorithm & Simulated Annealing Algorithm for solving Constraint Satisfaction Problem [code]
- Implementation of A*, Bi-directional and IDS algorithms for solving Rubik's Cube [code]
- Implementation of AC-3 algorithm for solving Constraint Satisfaction Problem [code]

HONORS & AWARDS

- Ranked top 2% among more than 150,000 Iranian students in the National University Entrance exam in Engineering and Applied Mathematics, 2017 (Regional rank of 815 and nationwide rank of 2991)
- Advanced to the 3rd stage of the nationwide Students Computer Olympiad Exam, 2015 (Only 80 students reached this stage)
- Qualified as a member of NODET- National Organization for Developing Exceptional Talents, 2010

SKILLS

- *Programming Languages:* Python, Java, C, C++, MATLAB, VHDL, SQL, JavaScript
- *Frameworks & Libraries:* Numpy, Scipy, TensorFlow, PyTorch, Pandas, Matplotlib
- *Development tools:* Git, VS Code, Visual Studio, PyCharm, IntelliJ, Vivado

LANGUAGES

- *Persian:* Native
- *English:* Advanced
  TOEFL iBT (September 2021): 102/ 120
  Reading: 29, Listening: 27, Speaking: 21, Writing: 25
  TOEFL iBT (November 2020): 97/ 120
  Reading: 28, Listening: 24, Speaking: 22, Writing: 23