

# Matin Aghaei

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**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**

- Reinforcement Learning
- Soft Computing & Computational Intelligence
- Algorithmic trading
- 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  
National Organization for Development of Exceptional Talents [[wikipedia](#)], Karaj

**EXPERIENCE** *Head Teaching Assistant, Artificial Intelligence* Sep. 2021 – Present  
Assistant Prof. Javanmardi, Amirkabir University of Technology, Tehran

- Coordinated the teaching assistance team
- Designed assignments projects
- Helped the students with their problems

*Head 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

*Head 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 3<sup>rd</sup> stage of the Nationwide Students Computer Olympiad Exam, 2015 (Only 80 students reached this stage)
- Qualified as a member of the National Organization for Development of Exceptional Talents [[wikipedia](#)], 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