Mohammad Matin Momeni Ravandi

COMPUTER ENGINEERING STUDENT

Tehran, Iran

(+98) 9335548737 | mohammad.matin.momenir@gmail.com | mohammad-momeni.github.io

Mohammad-Momeni | mohammad-matin-momeni

RESEARCH INTERESTS

• Robotics • Computer Vision • Reinforcement Learning • Browser Fingerprinting

EDUCATION

Shahid Beheshti University — **Tehran, Iran**
Bachelor of Science in Computer Engineering (Top 5 among all Iranian Universities) — 2021 – 2026

- GPA (last two years): **18.54/20 (3.87/4)**; Cumulative GPA: **18.22/20 (3.81/4)**
- Selected Coursework:
  - Principles of Robotics (19.91/20)
  - Robot Making Workshop (20/20)
  - Fundamentals of Computer Vision (19.25/20)
  - Artificial Intelligence & Expert Systems (18.75/20)
  - Fundamentals of Machine Learning (18.5/20)
  - Signals & Systems (19.8/20)
  - Linear Algebra (20/20)
  - Fundamentals of Cybersecurity (20/20)
  - Computer Networks (20/20)
  - Computer Networks Lab (19.75/20)

National Organization for Development of Exceptional Talents (Sampad) — **Kashan, Iran**
Rank 1 among all Iranian high schools — 2018 – 2021
*Diploma in Physics and Mathematics Discipline, CGPA: **19.49/20***

HONORS & AWARDS

- Ranked top **10** among **110** students, Shahid Beheshti University — **Sep. 2025**
- Ranked top **0.5%** among **127000** participants nationwide in the national university **entrance exam** — **Sep. 2021**
- Passing the first stage of **Iranian Mathematics Olympiad** — **Feb. 2019**

RESEARCH EXPERIENCE

B.Sc. Thesis, Browser Fingerprinting — **Shahid Beheshti University**
Under supervision of Dr. M. Hosseini — May. 2025 — Present

- Studying different methods of Browser and User Fingerprinting.
- Collecting a comprehensive fingerprinting dataset from the top 10000 websites on the web and labeling their scripts.
- Implementing various machine learning based methods of detecting fingerprinting and measuring their performance.

Robotics Research Assistant — **Shahid Beheshti University**
Under supervision of Dr. A. Salimi-Badr — Jan. 2024 – June. 2025

- Working on cooperative load transportation with two quadrotors.
- Applying Reinforcement Learning to make a Mavic 2 Pro controller.
- Working on assembling TurtleBot (Burger and Waffle) Robots and connecting them to ROS and Gazebo simulation environment.

Conference Publication: Appendicitis Diagnosis using AI — **Kashan University of Medical Sciences**
Peer-reviewed Conference Paper — Mar. 2025 – May. 2025

- *Development of a Decision Tree-Based Artificial Intelligence Model for Enhancing Acute Appendicitis Diagnosis in Pediatric Patients*
- Presented at the **2nd International Congress on Artificial Intelligence in Medical Sciences (AIMS)**
- Authors: A. Ghattan, **M. M. Momeni**, A. Bozorgnia, H. Ebrahimpour, M. Shabani

Computer Vision Research Assistant — **Shahid Beheshti University**
Under supervision of Dr. S. Nabavi — Dec. 2024 – Apr. 2025

- Making a dataset of Rock, Paper, and Scissors images.
- Labeling and setting a bouding box for each shape in every image.
- Training a model to detect these shapes using the made dataset.

TEACHING EXPERIENCE

Teaching Assistant, Shahid Beheshti University **Sep. 2022 – present**

- Teaching Assistant, Dr. A. Salimi-Badr:
  - Principles of Robotics, Head TA
  - Artificial Intelligence & Expert Systems
  - Signals & Systems
- Teaching Assistant, Dr. M. Shamsfard:
  - Artificial Intelligence & Expert Systems
- Teaching Assistant, Dr. R. GhavamiZadeh:
  - Formal Languages & Automata Theory, Head TA
- Teaching Assistant, Dr. M. Alidoost Nia:
  - Principles of Compilers Design
- Teaching Assistant, Dr. A. AliAkbary:
  - Advanced Programming
  - Fundamentals of Computer & Programming

Tasks & Activities as Teaching Assistant

- Design and grade assignments & final projects
- Conduct tutorial sessions
- Mentor and guide students (e.g., on project-related queries)
- Make tutorial materials (e.g., videos and documents)

WORK EXPERIENCE

Web Data Extraction Engineer **EXA, Tehran, Iran**
Full-time Nov. 2025 – Present

- **Data Pipeline Design:** Build reliable extraction, processing, delivery, and versioning workflows.
- **High-Volume Media:** Operate multiple data and media pipelines using Kafka, RabbitMQ, and PostgreSQL.

NOTABLE PROJECTS

Quadcopter Controller With Vision

- Programmed a controller for the Mavic 2 Pro in the Webots simulation environment.
- Designed and trained a CNN model to enable object recognition in the environment.

Solving CartPole with Reinforcement Learning

- Implemented and compared Deep Q-Learning and SARSA on the CartPole-v1 environment.
- Studied the effects of exploration strategies (Epsilon-Greedy vs Softmax/Boltzmann) on learning behavior.

Solving LunarLander with Deep Reinforcement Learning

- Implemented DQN and Dueling Double DQN (D3QN) on LunarLander-v2 to improve stability and reward optimization.
- Experimented with adaptive discount factor (γ) to increase long-term planning performance.

AI Referee for Rock–Paper–Scissors (with Cheat Detection)

- Trained a YOLOv8 model to recognize Rock, Paper, and Scissors hand gestures in real time.
- Built a combined custom dataset to improve robustness across different lighting and camera angles.
- Implemented cheat detection: detecting late gesture changes and non-motion before reveal.

SKILLS

Technical Skills

- **Robotics & Simulation**: Webots, ROS, Gazebo
- **Programming**: Python, Java, C/C++, PyQt, Solidity, C#
- **ML/DL Frameworks**: PyTorch, TensorFlow, Scikit-learn
- **Computer Vision**: OpenCV, CNNs, generative models
- **Reinforcement Learning**: PPO, DQN, imitation learning
- **Data Processing**: Kafka, RabbitMQ, MATLAB, Pandas
- **Crawling**: REST API, Selenium, Postman, Scrapy, requests
- **Systems**: Linux, Git, Docker

Soft Skills

- Attention to Details
- Analytical Problem Solving
- Team Collaboration
- Mentoring & Knowledge Sharing
- Presentation Skills
- Curiosity & Continuous Learning

Language Skills

- Proficient in **English**, **IELTS Band 8.0**
- Learning **German**, **CEFR A2**
- **Native** speaker of **Persian**

HOBBIES & EXTRACURRICULAR ACTIVITIES

CS Robotics Club **Shahid Beheshti University**
A member of the 2D soccer simulation team Sep. 2022 — Dec. 2022

Netka & Fan Kashf Raz Scientific Student Festivals **Shahid Beheshti High School of Kashan**
Organizer and Scientific Project Contributor Sep. 2016 — May. 2020

Hobbies

- Watching movies
- Running
- Listening to music
- Playing video games

REFERENCES

Official references and other documents are available upon request.