|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Flip calendar | 23/10/1994 | Internet | [alireza-kargar.github.io/](https://alireza-kargar.github.io/) |
| noun_Address_1118612 | Tehran, Iran. | noun_Inbox_1118529 | [alir3zakargar@gmail.com](mailto:alir3zakargar@gmail.com) |
| noun_call_1128424 | +98 9357664326 |  | [Alireza Kargar](https://www.linkedin.com/in/alireza-kargar-18923914b/) |

# RESEARCH INTEREST

**Alireza Kargar**

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| |  |  | | --- | --- | | * Robotics & System Design. * Collaborative Robotics. * Service Robots. | * Human-Robot Interaction. * Rehabilitation Robotics. * Social Robots. | |  |

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| **M.Sc. in Mechatronics Engineering** | **2017–2021** |
| *University of Tehran* | **Tehran-Iran** |
| * Thesis: Design and prototype a robot for cleaning glass façade buildings. | |
| * Supervisor: Dr.Manuchehr (Hadi) Moradi Sabzevar. |  |
| * Overall GPA: 16.07/20. |  |
| **B.Sc. in Mechanical Engineering** | **2013-2017** |
| *Islamic Azad University, West Tehran Branch* | **Tehran-Iran** |
| * Thesis: Vehicle’s mini wind turbine. | |
| * Supervisor: Dr.Hamed Moayeri Kashani. |  |
| * Overall GPA: 15.81/20. |  |

# EDUCATION

# PUBLICATION

|  |
| --- |
| * Mehralizadeh B, Soleiman P, Nikkhoo S, Rahimi M, **Kargar A**, Masoumi F, Moradi H. [Multi-Modal ASD Screening System: A Preliminary Study](https://doi.org/10.1109/ICRoM60803.2023.10412541). In2023 11th RSI International Conference on Robotics and Mechatronics (ICRoM) 2023 Dec 19 (pp. 228-234). IEEE |
| * Koochakzadeh E, **Kargar A**, Sattari P, Ravanshid D, Nasiri R. [Seven Benefits of Using Series Elastic Actuators in Design of an Affordable, Simple Controlled, and Functional Prosthetic Hand](https://www.researchgate.net/profile/Rezvan-Nasiri/publication/385272943_Seven_Benefits_of_Using_Series_Elastic_Actuators_in_the_Design_of_an_Affordable_Simple_Controlled_and_Functional_Prosthetic_Hand/links/671d0068edbc012ea13ee03e/Seven-Benefits-of-Using-Series-Elastic-Actuators-in-the-Design-of-an-Affordable-Simple-Controlled-and-Functional-Prosthetic-Hand.pdf). In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS2024). |

# EXPERIENCE

## RESEARCH EXPERIENCE ………………………………………………...……………………

**Research Assistant 2023-Present** *Research Institute for Robotics, Artificial Intelligence & Information Science (RAIIS).*

Supervisor: Rezvan Nasiri

* **Prosthetic Hand:** Developing design and implementation of a 3D printed prosthetic hand powered by a series of elastic actuators controlled by Electromyography (EMG) signals.

**Research Assistant 2017-2023**

*Advanced Robotics & Intelligent Systems (ARIS) Lab.*

Supervisor: Manouchehr (Hadi) Moradi Sabzevar

* **Glass façade buildings cleaner robot:** Designed, prototyped, and controlled a compliant robotic system with significant irregularities on the building surface for cleaning or maintenance tasks.
* **Multi-modal ASD screening system:** Designed, developed, and tested the required Robotic tools and equipment for the ASD Screening system.
* **NeuroLight:** Developing design and implementation of a cyber-physical system comprised of programmable wireless light modules to improve athletes’ speed and agility.
* **BAMS.V2:** Designed and developed a holonomic-drive social robot platform that interacts with children for education and entertainment.
* **Elbow rehabilitation robotic system:** Redesigned and prototyped an active series elastic mechanism for elbow rehabilitation.

**Research Assistant 2015-2017**

*College of Engineering, Islamic Azad University, West Tehran Branch*

Supervisor: Dr. Hamed Moayeri Kashani.

* **Vehicle’s mini wind turbine:** Developed and prototyped a mini wind turbine for vehicles based on the concept of vertical-axis wind turbines.
* **Automatic parasol:** Design and prototype an automatic parasol for urban open spaces to protect people from sunlight or rain.
* **Automatic canopy:** Designing and prototyping a lightweight and inexpensive automatic canopy.

## TEACHING & MENTORING EXPERIENCE ……………...………………………………………...…

|  |  |
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| **Lecturer** | **2021- 2023** |
| *School of Electrical and Computer Engineering*, *University of Tehran.* |  |
| * General Workshop course: CAD/CAM, SOLIDWORKS, Simplify3D. |  |
| **Instructor** | **2021-2022** |
| *Scientific Association of Chemical and Polymer Engineering.* |  |
| * Course: Computer-aided Design, SOLIDWORKS. |  |
| **Teaching Assistant** | **2020-2021** |
| *School of Electrical and Computer Engineering, University of Tehran.* |  |
| * General Workshop course Chief-TA: CAD/CAM, SOLIDWORKS, Simplify3D. |  |
| **Teaching Assistant**  *School of Electrical and Computer Engineering*, *University of Tehran*   * Robotics course TA: Project design and grading. | **2019-2020** |
| **Mentor**  *Advanced Robotics & Intelligent Systems Lab, University of Tehran.*   * Trained new members in SOLIDWORKS, 3D printing, Arduino, and MATLAB. | **2018-2023** |
| **Teaching Assistant**  *College of Engineering, Islamic Azad University, West Tehran Branch.*   * Statics course TA: Supervisor of student Homework * programming Mentor: MATLAB & Simulink | **2015-2016** |

## VOLUNTEER EXPERIENCE ………………………….………………………………..………...…...

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| **Introduce technology-based ASD systems for children with Autism**. | **Oct.2018** |
| *Tehran Annual Digital Art Exhibition.* |  |
| **Introduce the novel research achievements of Azad University engineering students.** | **Dec.2016** |
| *Research Week Exhibition.* |  |

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| **TOEFL** | Overall Score: 107 (Listening:30, Reading:29, speaking:22, writing:26) |
| **GRE General** | Overall Score: 328 (Quantitive:170, Verbal:158, Analytical Writing:5) |

# TEST SCORE

# ACADEMIC PROJECTS

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| **HSRD:** Developing design and implementation of a Hand spasticity rehabilitation device for post-stroke recovery. | **2021-2022** |
| **BAMS.V1**: Design and Develop an open-source interactive social robot head with sound-based localization and hand-tracking ability with the help of an IR sensors Array. | **2016** |
| **B-bot:** Design and Implement a differential drive Mobile Robot that follows the path drawn by the user on the computer precisely on the ground with a particular scale. | **2016** |

# WORKSHOPS & SEMINAR

|  |  |
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| Industrial automation expert training course | **2018** |
| Mechatronics and Robotics course (Advanced) | **2018** |
| Mechatronics and Robotics course (Introductory) | **2017** |
| MATLAB and Simulink for Mechanical Engineers | **2017** |
| Mechanical design using CATIA software. | **2017** |
| GD&T Geometric Tolerancing | **2017** |

# SKILLS

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| **CAD/CAM/CAE** | SOLIDWORKS, CATIA, MSC Adams, 3D Printing Software, ABAQUS |
| **Programming** | Python, MATLAB, C/ C++ (Arduino), Ladder (PLC), ROS, Git |
| **Professional skills** | Pneumatic & Hydraulic Systems |
| **Soft Skills** | Critical thinking, R&D team leadership, Systematic thinking |
| **Language skill** | English (Proficient), Farsi (Native) |

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| **All references are available upon request.** |

# REFERENCES