# Yashar Zafari Haqqi

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## Education

**Sharif University of Technology** <div align="right">**Sep. 2020 – Present**</div>
*B.Sc. in Mechanical Engineering, CGPA:18.16/20 (3.85/4).* <div align="right">*Tehran, Iran*</div>

**Shahid Madani Exceptional Talents(NODET) High School** <div align="right">**Sep. 2017 – Jun. 2020**</div>
*Mathematics & Physics, GPA:19.73/20 (4/4).* <div align="right">*Tabriz, Iran*</div>

## Research Interests

- Robotics
- Grasping & Manipulation
- Learning-Based Control
- Haptics

## Academic Experience

**Undergraduate Research Assistant** <div align="right">**Dec. 2023 – Present**</div>
*Social & Cognitive Robotics Lab, Sharif University of Technology*

- Working on *"Robotic Multi-Finger Dexterous Object Grasping Using Deep Reinforcement Learning"* as my B.Sc. thesis under the supervision of Prof. Alireza Taheri.

**Teaching Assistant** <div align="right">**Feb. 2022 – Present**</div>
*Department of Mechanical Engineering, Sharif University of Technology*

- **Robotics**, instructed by Prof. Saeed Behzadipour. <div align="right">Sep. 2024 - Present</div>
- **Dynamics of Machinery**, instructed by Prof. Saeed Behzadipour. <div align="right">Jan. 2024 - Present</div>
- **Aerial Robotics**, instructed by Dr. Amin Talaeizadeh. <div align="right">Feb. 2024 - Jul. 2024</div>
- **Dynamics**, instructed by Prof. Alireza Taheri. <div align="right">Sep. 2023 - Jan. 2024</div>
- **Statics**, instructed by Prof. Alireza Taheri. <div align="right">Feb. 2022 - Jul. 2022</div>

## Work Experience

**Iran Tractor Manufacturing Company (ITMCO)** ⌞ <div align="right">**Jun. 2023 – Sep. 2023**</div>
*Summer Internship.* <div align="right">*Tabriz, Iran*</div>

- Worked in Electronic Maintenance & Repair of CNC Machines Group. Helped with diagnosis and solution of CNC machine errors. Worked with industrial servomotors, controllers, and sensors; Gained hands-on experience in PLC.

**Jewelry Manufacturing Experience** <div align="right">**Jun. 2017 – Sep. 2021**</div>
*Part-Time Apprenticeship.* <div align="right">*Tabriz, Iran*</div>

- Learned academic and technical aspects of jewelry manufacturing, including melting, welding, and machining. Gained work experience in a highly technical workshop. Earned an international professional jeweler certificate.

## Projects

**Controller Design for Ball & Beam System** ⌂ | *MATLAB, Simulink* <div align="right">**Winter 2023**</div>
"Fundamentals of Automatic Controller Design" course project.

- Designed PID controllers for 2-D Ball and Beam System. Modeled and simulated in Simulink for fine-tuning.

**Activity Recognition Hat** ⌂ | *Arduino, MATLAB* <div align="right">**Winter 2023**</div>
"Measurement and Control Systems" course project.

- Developed a hat for walking and running recognition using sensors. Implemented logistic regression on training data.

**Design, Modeling, and Control of a Quadcopter** ⌂ | *MATLAB, Simulink, Control System Design Toolbox* <div align="right">**Spring 2023**</div>
"Aerial Robotics" course project.

- Designed quadcopter for desired flight time and abilities. Modeled and simulated in Simulink for flight test.

**EEG Signals Study for Bio-marker for Alzheimer Disease** ⌂ | *MATLAB, Simulink, EEG-Lab* <div align="right">**Spring 2023**</div>
"Signals and System" course project.

- Processed raw EEG data using EEG-Lab. Analyzed results to introduce an early bio-marker via olfactory stimulation.

## Relevant Coursework

- Robotics
- Signals & Systems
  *|Dep. of Elec. Eng.*
- Automatic Control
- Aerial Robotics
- Fund. of Controller Design
- Linear Algebra
  *|Dep. of Comp. Eng.*

## Technical Skills

**Programming**: MATLAB, Python, C, C++, LaTeX, XML.  **Design**: Solidworks, AutoCAD.
**Simulation**: Simulink, Simscape, MuJoCo  **Frameworks**: ROS2, EEG-LAB, Arduino, GitHub, Ubuntu.

## Honors, Awards, & Certificates

**National Olympiad - Mechanical Engineering**                                    **October 2024**
Ranked **5th** and earned a fellowship to be admitted to any national university without entrance exam.

**TOEFL iBT**                                                                      **October 2024**
Overall: **112/120**, Reading: 29, Listening: 30, Speaking: 24 Writing: 29.

**National Undergraduate University Entrance Exam**                               **Summer 2020**
- Ranked **333th** among more than 155,000 participants in Math-Physics group.
- Ranked **97th** among more than 174,000 participants in Foreign Languages group.

**Professional Jeweler Certificate**                                  **Issued 2021 − Expires 2026**
Iran Technical & Vocational Training Organization.

**First Aid Certification**                                                         **Issued 2023**
Iranian Red Crescent Committee.

**Course Completion Certificate (Level of Proficiency: C2)**                        **Issued 2016**
English Department, Iran Language Institute (ILI)

**Professional Athlete**                                                             **2013-2020**
Played in state's and schools' badminton teams, captained the teams several times.