Mahta Akhyani

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EDUCATION

10/2018 - 03/2023   **Bachelor of Science**: **Chemical Engineering**
University of Tehran - Iran
GPA: 15.61/20
Subdiscipline: Biotechnology
B.Sc. thesis **(Full Marked)** : *Design of mobile robot with SLAM capabilities for pipe inspection in chemical and petroleum industries*

10/2005 - 06/2018   **High school Diploma** : **Mathematics And Physics**
Manzoumeh Kherad Institute - Iran
GPA: 18.27/20

RESEARCH INTERESTS

- HRI, Cognitive Robots, Soft Robots, Bio-inspired Robots, Assistive Technology, Wearable Sensors

RESEARCH EXPERIENCE

08/2022 - Present   **Terahertz Photoelectronics Lab - Organic Chemistry Lab**
Department of Computer and Electrical Engineering, University of Tehran
Supervisor: **Dr. Mohammad Neshat**
Project Title: **Electrically Conductive Mixed Matrix Membrane-Based 3-Layered Geometrically Matching Head Phantom** More info
- Synthesized polymers including PANI, PDMS, starch, RTV-2, graphene and carbon black for a multilayer head phantom through CPC and MMM fabrication.
- Characterized electrical properties using 4-point probe measurement techniques
Currently drafting papers summarizing findings for future publication consideration.

06/2022 - Present   **Advanced Robotics and Intelligent Systems Lab**
Department of Computer and Electrical Engineering, University of Tehran
Supervisor: **Prof. Hadi Moradi**
Project Title: **Modular Customizable ROS-Based Platform for Rapid Development of Social Robots** More info
- Developed ROS-based GUI for remote robot monitoring/control
- Developed reusable Python modules and ROS interfaces to rapidly integrate perception/generation services
- Applied distributed processing approaches to optimize real-time robot behavior prototyping
Currently drafting paper summarizing findings for future publication consideration.

03/2019 - 02/2020   **Pharmacology Lab**
Department of Chemical Engineering, University of Tehran
Supervisor: **Dr. Reza Zarghami**
Project Title: **Chem-E-Car Competition** More info
Design and construction of a car powered by synthezised chemical energy source and brake system
- Research and Synthesis of a new form of Zinc-Air battery

TEACHING EXPERIENCE

Spring 2022   **Teaching Assistant**
Advanced Robotics (Graduate)
Department of computer and electrical engineering, University of Tehran
Lecturer: Prof. Hadi Moradi
- Held tutorial sessions and provided hands-on tutoring to students on ROS-based localization techniques and help deployed on Anki Vector robot

Winter 2021   **Teaching Assistant**
Learning Python with Computer Vision approach
RoboTech Academy
- Developed assignments and quizes, and assessed student work to reinforce learning concepts
- Provided tutoring support by answering questions from students

Volunteer Experience

05/2019 - 07/2019   **Self-Directed Volunteer Teacher**
Teaching Python fundamentals during summer to interested students

Job Experience

10/2021 - 07/2022   **Freelanced Project**
Simulation, and Build of a ROS-based SLAM capable Moblie Robot
- Design and Building a differential robotic system using ROS
- Testing the Robot in Simulation And in the Real World   More info

04/2020 - 02/2021   **Co-founder and Leader of Fanjoo**
Online platform for peer knowledge exchange and optional income
Addressed gap between education and workforce needs by empowering users to gain in-demand technical skills outside traditional academia.   More info
Skills achieved:
- Effective Collaboration
- Team Leadership
- Self Disciplinary
- Project Management

10/2019 - 01/2020   **Django Backend Developer**
UTech Academy - Tehran, Iran
- Independent back-end Django REST developer   GitHub

Skills

Proficient:
  Python - ROS - Javascript - HTML/CSS - Video editing (Adobe Premiere, Adobe Character Animator)
Experienced:
  3D modeling (Solidworks) - Django REST framework - Ubuntu - Mobile robotics platforms (e.g. Raspberry Pi, Jetson Nano) - Version control (Git)
Intermediate:
  Computer vision (OpenCV, MediaPipe) - Machine Learning and AI (TensorFlow, Pandas, Numpy, Matplotlib)

Certifications And Extra Courses

April 2022   **TOEFL Test**
- Overall Score: **97/120** (r27,l25,s22,w23)

Spring 2021   **Fundamentals of Mechatronics**
Department of electrical and computer engineering, University of Tehran , Iran
Lecturer: Dr. Mehdi Tale Masouleh
- Project Grade: **120 out of 80**
- Overall Grade: **19.5 out of 20**

Winter 2020   **Deep Learning and Computer Vision**
RoboTech Academy

Summer 2019   **Back-End Developing with Django**
UTech Academy
- Grade: **100/100**

Summer 2018   **Programming with Python**
Tehran Institute of Technology
- Grade: **95/100**

Honours and Awards

Summer 2018   **University Entrance Exam top 0.7%**
Ranked top 0.7% in among 144000 participants in IUEE for B.Sc.

Spring 2017   **Best Provincial Project, 18th Khwarizmi Scientific Competition Youth Awards (KYA), Tehran**
Project Title: "Designing Different Types of Electrical Compass".

Winter 2015   **School Science Fair Winning Project In The Chemistry Category**
Project Title: "Biological wastewater treatment (heavy metals) with algae".

References

Full Professor   **Prof. Hadi Moradi**   moradih@ut.ac.ir
Full Professor   **Prof. Reza Zarghami**   rzarghami@ut.ac.ir
Assistant Professor   **Prof. Mohammad Neshat**   mneshat@ut.ac.ir