

Mohammad Hassan Mojab

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RESEARCH INTERESTS

- Machine Learning, Deep Learning, Reinforcement Learning
- Computer Vision, Image Processing
- Internet of Things, Cloud Computing

EDUCATION

- **Master of Science** 2019–Present
Sharif University of Technology
- Computer Science (Artificial Intelligence) GPA: 16.93/20 via 23 credits
Tehran, Iran
- **Bachelor of Science** 2014–2019
Amirkabir University of Technology
- **Major:** Electrical Engineering (Electronics) GPA: 17.49/20 via 140 credits
- **Minor:** Computer Engineering (Software) GPA: 16.04/20 via 18 credits
Tehran, Iran

DISSERTATIONS

- **Active Object Localization** Present
Master Thesis – Supervisor: *Dr. Beigy*
 - Localizing objects in large images efficiently by using an **adaptive information acquisition** algorithm.
 - Reducing the cost of processing the whole image by adaptively selecting the regions of interest.
 - Increasing the run-time efficiency of object detection networks.
- **Serverless IoT platform** Spring 2019
Bachelor Thesis – Supervisor: *Dr. Taheri*
 - Designing and implementing a **serverless** IoT platform using **OpenWhisk & Kubernetes**.
 - Deploying an MQTT message broker and creating a simulation of IoT devices to send data to it.
 - Implementing RESTful APIs to store and retrieve time series data of IoT devices.
 - Developing a mobile application client for time series data visualization.

PUBLICATIONS

- Heydar Soudani, **Mohammad Hassan Mojab**, and Hamid Beigy. **Persian Natural Language Inference: A Meta-learning Approach**. In Association for Computational Linguistics, 2022 (Submitted).
- Ali Samadzadeh, **Mohammad Hassan Mojab**, Heydar Soudani, Seyed Hesamoddin Miresghollah, Ahmad Nickabadi, and Morteza Haghir Chehrehghani. **Amirkabir Campus Dataset: Real-world Challenges and Scenarios of Visual Inertial Odometry (VIO) for Visually Impaired People**. In IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2022 (Submitted).




HONORS

- **Top 10%**, based on GPA among all artificial intelligence students. 2021
CE Department, Sharif University of Technology, Tehran, Iran
- **Ranked 11th**, at the National university entrance exam to graduate school 2019
Among more than 10,000 students in Artificial Intelligence & Robotics major, National university entrance exam, Iran
- **Top 10%**, based on GPA among all EE students. 2018
EE Department, Amirkabir University of Technology, Tehran, Iran
- **Permitted** to study Software Engineering as a minor 2016
Permission is only given to talented students, Exceptional Talents Office, Amirkabir University Technology, Tehran, Iran

- **Top 0.3%**, at the National university entrance exam.
Among more than 200,000 students in mathematical and physics major, National university entrance exam, Iran

2014

RESEARCH EXPERIENCES

- **Research Assistant** 2019–Present
CE Department
 *Sharif Intelligent System Laboratory (SISL)*
Supervisor: *Dr. Hamid Beigy*
 - Collaboration on adaptive information acquisition and computer vision projects.
 - Providing tech support and guidance.
- **Research Assistant** 2017–2019
EE Department
 *Digital Smart Systems (High Performance Computing) Laboratory*
Supervisor: *Prof. Seyed Ahmad Motamedi*
 - Research and development of **IoT solutions** for smart home, power analyzer, and fleet management systems.
- **Research Assistant** 2016–2017
EE Department
 *Control of Multi Vehicle Systems Laboratory (CMVL)*
Supervisor: *Dr. Farzaneh Abdollahi*
 - Collaboration in **Semi-Autonomous** UGV control project.
 - Implementing UGV navigation using **ArUco** machine vision library.
 - Connecting UGV to the server using **NRF & UDP** protocols.
 - Developing a graphical user interface for UGV controller.
 - Collaboration in **Quadcopter** control project.
 - Controlling Quadcopter using **Erle-Brain** and APM planner software.



INTERNSHIP

- Monitoring and tracking objects for rehabilitation and security uses** Summer 2017
Supervisor: *Dr. Saeed Sharifian*
- Developing and designing two cross-platform mobile applications using **React Native** and **Redux** frameworks.
 - Developing a back-end server for mobile applications using **PHP** and **MySQL**.

TOP COURSES

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|-------------------------------|------|-------------------------|-------|
| • Natural Language Processing | 19.8 | • Internet Engineering | 20 |
| • Machine Learning Theory | 19.1 | • Computer Programming | 20 |
| • Deep Learning | 17.5 | • Advanced Programming | 19.64 |
| • Image Processing | 17.5 | • Computer Architecture | 19.6 |

WORK EXPERIENCES

- **Software Engineer & Lead Front-End Developer** Oct 2017–Present
Tehran, Iran
 *Andishe Fartak Amirkabir (Atrovan)*
Designing and developing mobile and web applications for:
 - Smart metering systems (*AtroMeter*)
 - Fleet management system (*Navgoon*)
 - Building management system (*AtCore*)
 - Electricity power analyzer (*EcoSense*)
 - Home automation (*Smart Home*)
- **Software Engineer & Mobile Application Developer** Sep 2018–Jan 2019
Tehran, Iran
 *Tosee Pardazan Andishe Gostar (Shams)*
 - Developing Android & iOS applications for two-sided metal market platform.

ACADEMIC PROJECTS

- **Persian NLI** Summer 2021

Natural Language Processing Course – Supervisor: *Dr. Mohammad Hadi Bokaei*

- Using meta-learning algorithms to improve the Persian Natural Language Inference (NLI) task.
- Use cross-lingual methods to implement NLI task in Persian (a low-resource language).

- **Video Colorization**

Winter 2020

Deep Learning Course – Supervisor: *Dr. Hamid Beigy*

- Image/Video Colorization using Generative Adversarial Networks (GAN) and various distance functions.

- **Speaker Recognition**

Spring 2018

Computational Intelligence Course – Supervisor: *Dr. Farzaneh Abdollahi*

- Designing a Speaker Recognition System using **Multi-Layer Perceptron Neural Network** coded in **MATLAB** with GUI.

- **Holographic Scanner**

Spring 2016

Advanced Programming Course – Supervisor: *Dr. Amir Jahanshahi*

- The project includes a GUI created by **pyQt** and two sharp distance sensors attached to a soccer robot to make a **Holographic** scan of the environment by rotation of the robot and then send data over the serial port to the computer. After processing the received data, a 3D Real-time plot of the scanned environment is displayed in the **GUI**.

- **Online Food Ordering Website**

Spring 2017

Internet Engineering Course – Supervisor: *Dr. Bahador Bakhshi*


- Developing and designing an online food ordering website by the use of **HTML**, **CSS**, and **JavaScript** for front-end and **PHP** and **MySQL** for the back-end of the website.

COMPUTER SKILLS

Languages

-  Python
-  JavaScript
-  Java
-  C++
-  SQL
-  Bash




Technical Tools

-  Matlab (+Simulink)
-  Git
-  Docker

Frameworks

-  React Native
-  React
-  Redux

Platforms

-  ThingsBoard
-  Kubernetes
-  OpenWhisk

LANGUAGE PROFICIENCY

- English **Advanced** (reading, writing, listening); **Intermediate** (speaking)
- Persian **Native**