

# M. AMIN SAFAVI

MECHANICAL ENGINEER | DYNAMICS & CONTROL SYSTEMS MASTER STUDENT

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## 🎓 EDUCATION

- Present  
09/2018 | **M.Sc.Mechanical Engineering : Applied Design**  
🔗 **ISFAHAN UNIVERSITY OF TECHNOLOGY** 📍 ISFAHAN, IRAN  
My elected modules involves the study of Dynamical Systems and Control.  
‣ GPA : 17.28/20  
‣ Rank : 1st/45 last 2 semester by a GPA of 18.64/20  
‣ Thesis Title : "Distributed Control of a Multi-agent Quad-copter System for Catching a Falling Load"
- 09/2018  
09/2014 | **B.Sc.Mechanical Engineering**  
🔗 **ISFAHAN UNIVERSITY OF TECHNOLOGY** 📍 ISFAHAN, IRAN  
An all-around mechanical engineering program, focusing on Solid Mechanics and Mechanical Design  
‣ GPA : 17.59/20  
‣ Rank : Top % 11 (14/120)  
‣ Thesis Title : "A Geometrically Driven Swarm Algorithm Enhanced with Obstacle Avoidance"

## 🧪 RESEARCH INTERESTS

- Multi-Agent Robotic Systems
- Swarm Robotics
- Intelligent Control
- Neuromorphic Control
- Data-Driven Control
- Visual Servoing

## + PERSONAL TRAITS

- Problem-Solving
- Critical Thinking
- Leadership Abilities
- Teamwork

## 🏛️ ACADEMIC EXPERIENCE


- Present  
11/2019 | **Graduate Research Assistant**  
🔗 **ADVANCED ROBOTICS & MECHATRONICS LAB** 📍 ISFAHAN, IRAN  
‣ Visual Servoing Using 3D CAD Model & image Moments  
‣ Implementing the Visual Servoing algorithm on KUKA iiwa  
‣ Developing Robotics Solutions & Feasibility Study for Fire Fighting Oil Well Blowouts
- Present  
09/2017 | **University Teaching Assistant**  
🔗 **ISFAHAN UNIVERSITY OF TECHNOLOGY** 📍 ISFAHAN, IRAN  
My responsibilities mainly include teaching software such as MATLAB, Simulink, & CAD, & designing & solving homework. Teaching Assistant of the following courses over past semesters :  
‣ Robotics (Spring 2020)  
‣ Control Theory (Fall 2019)  
‣ Technical Drawing II (Spring 2018)  
‣ Applied Electronics (Fall 2017)
- 09/2018  
06/2018 | **International Research Intern**  
🔗 **M&MoCS RESEARCH CENTER** 📍 FROSINONE, ITALY  
‣ Computational Solid Mechanics Courses  
‣ Numerical Optimization Course  
‣ COMSOL & Mathematica Training sessions  
‣ Research on Swarm Robots Control & Coordination Algorithm

## 💼 WORK EXPERIENCE

- 10/2019  
07/2019 | **Robotics Teacher**  
🔗 **EMAM SADEGH INSTITUTE** 📍 ISFAHAN, IRAN  
Teaching basics of robotics and mechanical design to secondary and highschool students as a volunteer.  
‣ Teaching Inventor CAD Software  
‣ Courses on Robotics & Robot Locomotion

09/2017 | Volunteering at AIESEC

02/2016 |  AIESEC


 ISFAHAN, IRAN

I joined AIESEC as a member and after 9 month I was elected as the local committee president, this period played a huge role in my life with regards to personal development, organizational & leadership skills.

- > Interviewing foreign applicants
- > Raising International Projects Aligned with UNs Sustainable Development Goals
- > Coordinating all the operations and leading the board committee
- > Public Speaking, Motivating & Empowering Youth
- > Event Planing & Recruitment

09/2016 | Design Engineer Intern

08/2016 |  CLAIER-ASEMAN MACHINE ASIA CO.

 ISFAHAN, IRAN

- > Summer internship in a company specialized lifting equipment.
- > Designing a mobile tower for police forces.
- > Drafting As-Built technical drawings of a drive mechanism.

## SELECTED PROJECTS

### HYBRID ROV-AUV DESIGN

09/2019 - 01/2020

Inventing a hybrid ROV for underwater inspection & maintenance. The patent is currently under registration. ([more info](#))

### TEMPERATURE CONTROLLER DEVICE

06/2019 - 09/2019

Electronic Circuit Design, Assembly, & Programming of a Temperature Controller. ([more info](#))

### FAST FINITE-TIME FORMATION CONTROL OF NONHONOMIC ROBOTS

07/2019 - 08/2019

 [MAminSFV/formation-control](#)

Developing an Adaptive Non-singular Terminal Sliding Mode Controller. ([more info](#))

### A GEOMETRICALLY DRIVEN SWARM ALGORITHM ENHANCED WITH OBSTACLE AVOIDANCE

06/2018 - 06/2019

 [MAminSFV/swarm-project](#)

A swarm coordination algorithm equipped with a trajectory planner that can model deformable body movement. ([more info](#))

### UR5 ROBOT KINEMATIC MODELLING & CONTROL SIMULATION

01/2019

 [MAminSFV/UR5](#)

Modelling & Motion Control of a Redundant Manipulator with 6 DOFs, following Spatial Trajectories. ([more info](#))

### MOBILE TOWER DESIGN

06/2016 - 09/2016

Designing a customized Elevating Work Platform from the scratch during a Summer Internship. ([more info](#))

## SOFTWARE SKILLS

Programming & Automation	C / C++ , Python, Matlab, PLC, ARM, Keil uVision
Mathematics	Maple, Wolfram Mathematica
Simulation	Simulink, V-REP, Automation Studio, Festo FluidSim
Computer aided Design & Eng.	COMSOL, Abaqus, CATIA, Inventor, Altium Designer
Utilities	TeX, Linux, git Hugo, Microsoft Office, Adobe Premiere Pro

## ACHIEVEMENTS

 MERIT-BASED ADMISSION FROM ISFAHAN UNIVERSITY OF TECHNOLOGY

★ YOUNGEST LOCAL COMMITTEE PRESIDENT IN AIESEC IRAN

- > Most foreign exchange participants
- > First ever "Global Village" event in Isfahan with over 100 participants
- > Largest Recruitment held in Isfahan with nearly 230 applicants, 35 recruited & trained

## LANGUAGES

English	IELTS Band Score 8
Persian	Native Language
French	A2 Proficiency
Arabic	Scholastic

## HOBBIES

 HIKING	 READING BOOKS
 SPORTS	