




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 : 16.57/20
‣ Rank : 1st/45 last semester by a GPA of 18.4/20
‣ 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 and image Moments
‣ Implementing the Visual Servoing algorithm on KUKA iiwa
‣ Developing Robotics Solutions & Feasibility Study for Fire Fighting Oil Well Blowouts
- Present
07/2019 | **Teaching Assistant**
ISFAHAN UNIVERSITY OF TECHNOLOGY  ISFAHAN, IRAN
Teaching assistant of Control Theory course for undergraduate students.
‣ Teaching Matlab & Simulink
‣ Designing & Solving Homeworks
- 08/2018
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
- 01/2018
09/2017 | **Course Grader**
ISFAHAN UNIVERSITY OF TECHNOLOGY  ISFAHAN, IRAN
‣ Applied Electronics Course for Undergraduate Students
‣ Technical Drawing II (CAD) Course for Undergraduate Students

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

02/2018 09/2016	Volunteering at AIESEC  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. <ul style="list-style-type: none"> ➤ 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 08/2016	Design Engineer Intern  CLAIER-ASEMAN MACHINE ASIA CO.	 ISFAHAN, IRAN Summer internship in a company specialized lifting equipment. <ul style="list-style-type: none"> ➤ Designing a mobile tower for police forces. ➤ Drafting As-Built technical drawings of a drive mechanism. ➤ Translating User Manual of Elevating working platform machine. (Isoli S.p.a)



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
 github.com/MAminSFV/swarm-project Developing an Adaptive Non-singular Terminal Sliding Mode Controller. (more info)	
A GEOMETRICALLY DRIVEN SWARM ALGORITHM ENHANCED WITH OBSTACLE AVOIDANCE	06/2018 - 06/2019
 github.com/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
 github.com/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 & Development	C / C++ , Python, Matlab, Maple, Wolfram Mathematica, PLC, ARM
Simulation	Simulink, V-REP, Automation Studio, Festo FluidSim
Computer aided Design & Eng.	COMSOL, Abaqus, SolidWorks, CATIA, Altium Designer,Keil uVision
Utilities	TeX , Linux, Microsoft Office, Adobe Premiere Pro, git




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**