






MOHAMMAD MIRZAEI

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LANGUAGES

Persian
English
German
Arabic

EDUCATION

2015 - 2021
TEHRAN,IR

BSc Mechanical ENG.

Azad University, South Tehran Branch
GPA: 3.48/4

2011- 2015
TEHRAN,IR

Diploma in Maths & Physics

Maarefat
Governmental leading high school
GPA: 4/4

WORK EXPERIENCE

2021
TEHRAN,IR

Mechatronic engineer, PTA Company

My duties involve industrial designing, PCB designing, researching about optic processes, programming by arduino & raspberry pi.

**2020
(Dec)**
TEHRAN,IR

Plastic injection molding intern

My duties involved researching about plastic injection molding machine and mold designing.

**2020 - 2021
(Oct - Jan)**
TEHRAN,IR

Electronics intern, R&D of Raahbar Informatic Services Co.

My responsibilities included circuit designing & PCB designing by Altium & AVR microcontroller programming.

**2020
(Jun - Oct)**
TEHRAN,IR

Mechatronic engineer, VOLANT MOTOR startup

My responsibilities included designing & studying & simulating an axial flux motor.

**2019 -2020
(Sep - Feb)**
TEHRAN,IR

Mechatronic engineer

My responsibilities included designing & manufacturing & control working of a robot about medical Laboratory Sampling.

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HOBBIES



2019 -2020
(Sep - Feb)

TEHRAN,IR

Mechanical engineer, URID company

My duty was designing and developing an electrical scooter.

2019

TEHRAN,IR

Mechanic head of robotic team, IRSE team

My duties involved managing projects of team members

2017 - 2019

TEHRAN,IR

Member of robotic team, IRSE team

My tasks included industrial designing, robot designing, mechanism designing, some basic electronic works, control works, CFD & control simulation.

2017
(Jun - Dec)

TEHRAN,IR

CFD & Fluid simulation intern, MEHR's fluid and structural industry

My responsibilities included fluid and structural simulation by ANSYS Fluent & CFD & documentation of some projects.

2015
(Jun - Nov)

TEHRAN,IR

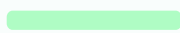
Car repair shop, ali's repair shop

My duties involved representing car services and repairing cars.

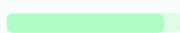
SKILLS

Computer-Aided Design

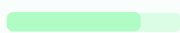
Solid Works



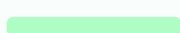
Altium



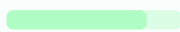
CATIA



Simplify3d
(3D Printing)

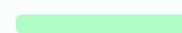


Keyshot

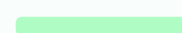


Computer-Aided Engineering

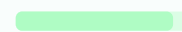
ANSYS Workbench



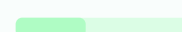
ANSYS Fluent



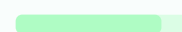
Proteus



Maxwell

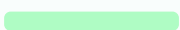


Gazebo, RVIZ, Moveit

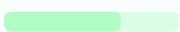


Programming & Boards

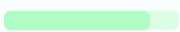
Arduino



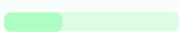
ROS



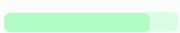
AVR



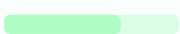
Raspberry pi



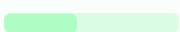
C++



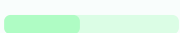
Python



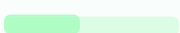
ARM STM32
(Keil IDE)



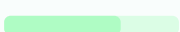
Basic



Matlab

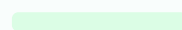


Linux(Ubuntu)

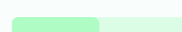


Documentation & presentation

Microsoft Office



Adobe Photoshop



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STRENGTH

- Hard-Working
- Problem Solving
- Creative
- Team-Work
- Team Managing

PROJECT EXPERIENCES

WORK SHOPS

Sharif VC Cup (2018)

a competition about renewable energy which involved 20 days workshop about startups and how to progress an industrial product on this subject. manufacturing of graphene was our team's idea.

PROJECTS

Biomedical Robot

Designing & manufacturing & some control works of a 4 DOF biomedical robot that its duties were included performing medical laboratory tests such as vitamin D test.

Smart UV-C Sterilizing Disinfection device

Designing and manufacturing all of the elements of a smart uv-c sterilizing disinfection device such as circuit & PCB designing & arduino programming.

ROV Robot

My responsibilities as a project manager & head designer of mechanic elements included propeller designing & managing members of team's designs such as thruster and base body, also i had done something about control and linearization of kinematic equations.

Current Measurement of analog devices

Current measurement of analog voltage for low current which had been developed via current measurement sensor & atmega16 microcontroller for signal processing and two amplifier circuits method with transistor and opamp, and my tasks were designing circuit and PCB and programming.

Pick & Place Simulation with UR5 Arm (developing)

Pick & place process with UR5 (universal robot) is simulating by ROS & other applications such as Gazebo, RVIZ, Moveit which this process working with a camera for image processing & UR5 URDF.

Electric Scooter

Designing & simulation of scooter elements by ansys such as impact to obtain best performance.

Temperature display board

PCB designing & AVR (atmega16) programming to display ambient temperature on character LCD.

FSI Analysis of Plane's Composite Wing

It's the most complex simulation which i've ever done, a composite wing that designed by ANSYS ACP and simulate by coupling of ANSYS Fluent and transient structural analysis because of impact.

Simulation of Natural Heat Exchanger

It's a same project between me and my friend at Australia, he was a civil PHD student who worked on special materials with specific conduction coefficient so because of obtaining maximum performance, these material were simulated by Fluent with specific heat flux on upper surface between these materials & water in copper tube.

Laser Control Board

Designing PCB by Altium to control laser module via Received signal with RS485.

Aquarium Pump

Designing and analysis an aquarium pumps by solid works & ANSYS fluent.

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COURSES

- **Deep Learning & Computer Vision**
Ponteves & Eremenko, Udemey
- **Hello (Real) World with ROS**
Delft University of Technology, EDX
- **A Hands-on Introduction to Engineering Simulations**
Cornell University, EDX
- **Complete Python Mastery**
Mosh Hamedani, Code With Mosh
- **Schematic & PCB Design by Altium**
Robert Feranec, Fedevel Academy (youtube)
- **Designing by Solid Works, Advance & Beginner**
Tehran Institute of Technology
- **Matlab & Simulink for Mechanical Engineers**
Tehran Institute of Technology
- **LPIC 1 (linux)**
Jadi Mirmirani course
- **CFD by ANSYS Fluent**
Iran Mavad Institute

ACHIEVEMENTS

- A member of IRSE's team which has won a place in IRAN OPEN's competitions
- First place in regional singing team competition (2007)
- Attending to young music festival for setar competition (2021)
- First place in school soccer competition (2014)
- Admission to govermental leading high school Exam (2011)
- best score at FEM, CFD, Fluids mechanic, Mechanical engineering design, University courses.

VOLUNTEER WORKS

- **Imam Ali's Popular Student Relief Society [IAPSR]**
society of students against poverty

2018

- Education managing of adult sons who are deprived of good education because of poverty and child labor.

2019 - 2020

- teaching as a Methematics teacher in Darvaze_ghar Iranian home.

2021

- teaching as a Robotic teacher in Darvaze_ghar Iranian home.

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TEACHING EXPERIENCE

**2018
(Fall)**

Teaching how to design by Solid Works software at Azad, South Tehran Branch university.

**2019
(Spring)**

Teaching FEM by ANSYS WORKBENCH software to members of IRSE robotic team at Azad, South Tehran Branch university.

**2020
(Spring)**

Teaching mechanic of materials 1, 2 at Azad, south Tehran branch university.

2021

Teaching SETAR (Traditional persian music instrumet)