CONTACT

✉ [Email]   in [linkedin]   ⬡ GitHub [github]

EDUCATION

University of Tehran – Tehran, Iran *(Ranked #368 in QS Rankings)*   *2021 – 2024*
M.Sc. in Mechanical Engineering | Applied Mechanics specialization

Thesis Title: Distinctive Electromechanical Performance of Metamaterial Dielectric Elastomer Actuators with TPMS Geometries.
Supervisor(s): []
GPA: 18.15/20.00. (Converted: 3.88/4.00) (Ranked 7th among more than 40 students)

Bu-Ali Sina University – Hamedan, Iran   *2016 - 2021*
B.Sc. in Mechanical Engineering

Thesis Title: Optimization of Energy Absorption in Empty and Foam-Filled Circular Thin-Walled Sandwich Structures. **Supervisor(s):** []
GPA: 15.66/20.00. (Converted: 3.12/4.00). (Last 2 Semesters GPA: 3.51/4.00)

RESEARCH INTERESTS

- Finite Element Analysis, Finite Difference Method
- Constitutive Modelling of Non-linear Solids
- Micromechanics, Multi-scale Modelling
- Metamaterials, Architected Materials
- Machine Learning , Deep Neural Networks
- Additive Manufacturing, 3D bioprinting

SKILLS

Programming: Python, MATLAB, Fortran, C++, MAPLE.   **CAD software:** SOLIDWORKS ,CATIA.
CAE software: ABAQUS, COMSOL Multiphysics, , LS-DYNA.   **3D printing:** Simplify3D, Cura.
Languages: *Persian* (Native), *English*: IELTS Academic, Overall Band 7.5 (L: 7.0, R: 9.0, W: 7.0, S: 6.5).
Documentation Software: MS Office (Word, PPT, Excel).
Hands-on Experiences: Casting, Welding, Machining, Turning, Milling, Nondestructive testing (NDT).

PUBLICATIONS

Research Article:

Optimization of Electromechanical Performance in TPMS-Based Dielectric Elastomers Using Genetic Algorithm (*In Completion*)

Book Chapter:
Polymer Actuators with Composite Structures (*Submitted*)

EXPERIENCES

School of Mechanical Engineering, University of Tehran, Tehran, Iran   *2022 – Now*
|*Research Assistant - SMS lab*|
Supervised and mentored students in their projects and oversaw junior students in part-time 3D printing operations.

|*Teaching Assistant*|
FEM, Continuum, Non-linear Solid Mechanicsو and Research Methodology Courses.
Delivered lectures and presentations, designed and assessed projects and exams, and provided feedback on students' "proposal writing" assignments.

Voluntary Job   *2023 – Now*

|Assistant *Reviewer*|
Reviewed over 20 submissions for journals such as *Chemical Engineering Journal*, *Additive Manufacturing*, *Advanced Engineering Materials*, and *Polymers*.

Emamat High School *2024 – Now*

|*General English Teacher (part-time)*|

IKCO Company – Tehran, Iran *2021*

|*Intern*|

 A brief review of my internship:

HONORS & AWARDS

Top 1%, out of more than 10,000 applicants in the M.Sc. Nation-wide University Entrance Exam (**Full scholarship**).
Top 5%, out of more than 190,000 applicants in the B.Sc. Nation-wide University Entrance Exam (**Full scholarship**).
Awarded within the top state candidates in the National Kharazmi Elite Youth Festival. (Poetry-Literature)
Performed as a Santur player in the talented students orchestra during elementary and secondary school.

LICENCES & CERTIFICATES

ICDL - Python: Fundamental & Advanced - COMSOL: Multiphysics - MATLAB: fundamental - Piping principles and design - Pneumatic Technician - ISO 9001:2015 Internal Auditor

ACADEMIC PROJECTS

ML Algorithms & Neural Networks Implementation
Artificial Intelligence Course – Course Project
- Developed ML Algorithms, MLP and CNN algorithms Neural Networks, RL algorithms like DQNs.

Investigating Linear Viscoelastic Behavior of TPMS Structures.
Viscoelasticity Course – Final Course Project
- Evaluated the visco-hyperelastic response of complex geometries under thermomechanical loading conditions.

Transient swelling of pH-sensitive Hydrogels – Shape Memory Polymers under Thermo-Mechanical Loading.
Non-linear Solid Mechanics Course – Final Project & Course Projects
- Developed and implemented semi-analytical models for transient swelling of pH-sensitive hydrogels in COMSOL.
- Designed and implemented monolayer SMPs with various actuation modes under thermomechanical loading in COMSOL.

FEM Implementation in MATLAB, Python, ABAQUS.
FEM: Intro & Advanced Course – Course Projects
- Developed various UEL & UMAT subroutines for soft materials.
- Implemented Finite Element Algorithms in MATLAB & Python from scratch.