
EDUCATION

Aug 2015 **Doctor of Philosophy**, MECHANICAL ENGINEERING, Texas A&M University, College Station, TX

- Thesis Topic: *Non Linear and Rate-dependent Hysteresis Electro-Mechanical Responses of Ferro-electric Materials*

May 2007 **Master of Science**, AERO STRUCTURAL ENGINEERING, Amirkabir University, Tehran, Iran

- Thesis Topic: *Stability Analysis of Moderately Thick Composite Structures Using Generalized Finite Strip Method*

May 2004 **Bachelor of Science**, MECHANICAL ENGINEERING IN FLUID, Iran University of Science & Technology, Tehran, Iran

- Thesis Topic: *Design, Simulation and Manufacturing of The 3R Wrist for a Robotic Arm*

SOFTWARE SKILLS

Simulation: Abaqus, COSMOS, ANSYS, dealii, MSC ADAMS, Working Model 3D

Modeling: Pro/Engineer, SolidWorks, Autodesk Mechanical Desktop, Autocad, CATIA

Computer Algebra System: Maple, MATLAB, wxMaxima

Programming: Fortran, C++, Python, Visual Basic

Documentation: Office, L^AT_EX, Tecplot, ParaView, VisIt

CERTIFICATES

FE license awarded by the National Council of Examiners for Engineering and Surveying

IIMEC school certificate awarded by the International Institute for Multifunctional Materials for Energy Conversion

RELEVANT EXPERIENCES

Finite Element Method Application Engineer II, Cooper Tire & Rubber Company, Findlay, Ohio Mar'2015 - present

- Developed a methodology for F&M (Force and Moment) prediction of rolling tire
- Set up SST (Steady State Transform) simulation for rolling simulation fully treaded tires
- Developed a UAMP subroutine in abaqus/standard for prediction of free rolling angular velocity and PRAT (Plysteer Residual Aligning Torque)

Research Assistant, Texas A&M University, College Station, Texas

Jan'11 - Mar'2015

- Simulated electromechanical coupling of Active Fiber Composites
- Simulated folding of bimorph piezoelectric beam under very high electric potential
- Prepared a Python code for optimizing deflection of a honeycomb panel under pinching in Abaqus/CAE
- Designed and simulated a piezoelectric beam actuator for bending and twisting incorporating polarization switching phenomena with Abaqus/UEL and Abaqus/UMAT for high voltage that lead to 60% more displacement
- Developed a modular non linear time dependent Finite Element program for multifunctional materials in Fortran for analysis of piezoelectric devices that enables non linear and coupled constitutive equations and geometric non linearity
- Obtained a novel transient model for bending of piezoelectric composite beams
- Created a method for morphing of a smart truss systems by means of the Finite Element modelling

Design Engineer, PSACO Vibrating Equipment and Plants, Tehran, Iran

Jan'08 - Aug'09

- Enhanced performance and increased durability of vibratory sieves by using 3D mathematical models and MSC ADAMS
- Performed modal analysis to correctly predict dynamic responses of vibratory sieves for Ahvas Petrochemical Industries in a wide range of excitation frequencies resulted in enhancement of their vibration characteristic
- Designed and simulated a vibratory bulk material elevator using SolidWorks and COSMOS for handling materials for a food company which had space limitation in its plant
- Prepared an accident free installation procedure and designed safe transportation frame for vibratory sieves using SolidWorks and ANSYS to prevent transportation and installation damages

Design Engineer, MAPN Design and Manufacturing, Tehran, Iran

Dec'03 - Sep'04

- Designed and drafted parts for diesel generator using Mechanical Desktop
- Prepared technical drawing and engineered manufacturing process for the replacement parts by extracting dimensional and material data from obsolete malfunctioning parts

Engineering Intern, Iran Khodro, Karaj, Iran

Summer 2002

- Designed a totally automatized nut-feeder system using MSC ADAMS that increased safety and production speed in assembly line of Peykan Truck

Engineering Intern, Fahham Heavy Machinery, Shadabad, Iran,

Summer 2001

- Controlled quality of parts of a centrifugal casting machine which was being manufactured for Iran Pipes and Machinery in Fahham Heavy Machinery's machine shop
- Designed necessary fixtures or auxiliary manufacturing parts using Autocad

COMMUNICATION SKILLS

Spoken: English, Farsi, Turkish; **Learning:** French, Spanish

Latest Presentations: National Congress on Theoretical & Applied Mechanics, The American Society for Composites

WORK AUTHORIZATION

Eligible for CPT (Curricular Practical Training) as well as OPT (Optional Practical Training) for at least 29 months