



Amirsajjad Rezaei



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Researcher in theoretical and applied mechanics

DoB: 1991/3/24

About

A mechanical engineer with 6+ years of research experience and excellent analytical skills. Good at teamwork and learning at a fast pace. Experienced in modeling mechanical systems and in tune with the required computer tools including ANSYS and MATLAB. Currently studying cryogenic payload prototype for gravitational wave detectors

Education

Doctorate of theoretical and applied mechanics

Institute/University: Sapienza Università di Roma
2017 - 2021

Researcher

University: Sapienza Università di Roma
From June 2021

Tasks and Achievements

- Working on cryogenic payload prototype for gravitational wave detectors

Teaching assistant

September 2014 - August 2015

Tasks and Achievements

- Tutoring small student groups for undergrad specialized courses by creating lesson plans and overseeing lesson preparations
- Proposing research topics for master thesis to graduate students and supervising the project development
- Won the university's financial grant for high quality publications multiple times

Project intern

June 2013 - August 2013

Tasks and Achievements

- Residual stress analysis in rolling process for avoiding repetitive fatigue failure

Master of applied mechanics

Institute/University: Shahid Bahonar University of Kerman
2013 - 2015

Research assistant

November 2017 - April 2021

Tasks and Achievements

- Putting forward new ideas for enriching the concept of mechanical metamaterials and developing new models accordingly for manipulation of travelling waves
- Won the university's international PhD fellowship
- Won the international mobility award from Sapienza Università di Roma for research leave to Denmark at Aalborg University

Educational consultant

September 2011 - August 2013

Tasks and Achievements

- Educational planning for students by instructing new learning techniques followed by close monitoring of their improvement as well as providing special educational needs for disabled clients

Project intern

June 2011 - August 2011

Tasks and Achievements

- Simulating and troubleshooting of pneumatic circuits of Rotogravure Printing Machine using FluidSIM.

Skills

Autodesk Inventor

Simulink

ANSYS Workbench

MATLAB

Maple

COMSOL Multiphysics

Mathematica

Python

machine learning

Structural analysis

System identification

Data management

Languages

Persian

Listening Level ■■■■■ Speaking Level ■■■■■ Writing Level ■■■■■ Reading Level ■■■■■

English

Listening Level ■■■■■ Speaking Level ■■■■ Writing Level ■■■■ Reading Level ■■■■

Exact solution for free vibration of thick rectangular plates made of porous materials

Publisher: Composite Structures

Date: December 2015

Application of Carrera Unified Formulation to study the effect of porosity on natural frequencies of thick porous–cellular plates

Publisher: Composites Part B: Engineering

Date: April 2016

On the effect of coupled solid-fluid deformation on natural frequencies of fluid saturated porous plates

Publisher: European Journal of Mechanics–A/Solids

Date: May 2017

Buckling response of moderately thick fluid-infiltrated porous annular sector plates

Publisher: Acta Mechanica

Date: November 2017

Natural frequencies of functionally graded plates with porosities via a simple four variable plate theory: An analytical approach

Publisher: Thin-Walled Structures

Date: November 2017

On natural frequencies of Levy-type thick porous-cellular plates surrounded by piezoelectric layers

Publisher: Composite Structures

Date: November 2017

An analytical study on the free vibration of moderately thick fluid-infiltrated porous annular sector plates

Publisher: Journal of Vibration and Control

Date: September 2018

Wave Propagation Phenomena in Nonlinear Elastic Metamaterials

Publisher: New Trends in Nonlinear Dynamics

Date: January 2020

An investigation over the effect of piezoelectricity and porosity distribution on natural frequencies of porous smart plates

Publisher: Journal of Sandwich Structures & Materials

Date: October 2020

Shear deformation theories for elastic buckling of fluid-infiltrated porous plates: An analytical approach

Publisher: Composite Structures

Date: December 2020

Wave propagation with long-range forces and mistuning effects

Publisher: Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science

Date: January 2021

Propagation of waves in nonlocal-periodic systems

Publisher: Journal of Sound and Vibration

Date: August 2021

Tracking of moving targets of redundant manipulators based on artificial intelligence

For: Personal project

Date: October 2020

Addressing the problem of moving target, tracking and hunting, in an environment with various types of obstacles via AI tools and fuzzy logic

Structural analysis of main ball mill gear of Sarcheshmeh industrial complex

For: Sarcheshmeh industrial complex

Date: June 2013

Modelling and stress analysis of the component under quasi-static loading by using FEA tools and gear tooth geometry optimization for avoiding repetitive component failure.



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