

# Mohammad Foroughi

PROSPECTIVE PHD STUDENT

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## Education

### Isfahan University of Technology

**M.Sc. IN STRUCTURAL & EARTHQUAKE ENGINEERING (GPA: 17.32/20.00)**

**Focus:** Computational Mechanics    **Advisor:** Prof. Mojtaba Azhari · Prof. Saeid Sarraimi

Isfahan, Iran

Sept. 2018- Nov. 2021

### Azad University- Najafabad Branch

**B.Sc. IN CIVIL ENGINEERING (GPA: 17.28/20.00)**

Isfahan, Iran

Sept. 2013- sep. 2017

## Research Interests

### Structural Design & Earthquake Engineering

Performance-Based Design  
Structural Dynamics for Natural Hazard Mitigation ,  
Finite Element Analysis,  
Plates, Shells, Composite Structures,  
and Probabilistic Modeling of Seismic hazards

### Infrastructural Resilience

Seismic Resilience,  
and Sustainable Design

### Statistical and probabilistic modeling in Structural Engineering

Structural Risk Analysis,  
Reliability Analysis & Uncertainty Quantification,  
and Stochastic Structural Analysis

### Adaptive Manufacturing

3D-Printing of materials and structures,  
and Optimization

## Academic Projects

- 2019 **Structural Health Monitoring for Concrete Structures by Considering Different Level of Damages,** Related to “Advanced Concrete Technology”
- 2019 **Solving Plate Using Finite Strip Method in MATLAB,** Related to “Finite Element Method
- 2017 **Solving Truss Using Finite Element Method in MATLAB,** Related to “Finite Element Method
- 2017 **Complete Structural Design of a 7-Story Building,** Related to “Steel Structures Project”
- 2017 **Complete Structural Design of a 7-Story Building,** Related to “Concrete Structures Project
- 2017 **Complete design of a Prestressed Concrete Bridge using CSIBridge software,** Related to “Principles of Bridge Engineering
- 2017 **Complete Calculate Estimates and Costs of a 5-Story Building,** Related to “Quantity Surveying and Estimating & Project”
- 2016 **Complete Road Design Using Civil3D Software,** Related to “Road-making Project”
- 2016 **Programming the Calculation of Horizontal Force & Moment In Each Height of Concrete Dams by Considering Seismic Coefficient In MATLAB,** Related to “Design and Analysis of Concrete dams”
- 2015 **Complete project management depended to time & cost,** Related to “Systems Engineering”

## Independent Projects

- 2023 **Create a complex cross-platform software in order to use in mapping using GPS**, Qt C++, GPS Neo6m, Raspberry Pi
- 2023 **Create a software to develop my thesis formulation**, Finite Element Method, Qt C++

## Professional Experience

### Azad University - Isfahan (Najafabad) Branch

#### LECTURER

- CE-EN0104 - Structural Analysis I
- CE-EN0114 - Steel Structures

Isfahan, Iran

June. 2019 - Aug. 2021

Sept. 2019 – Dec. 2020

Jan. 2020 - May 2021

### Abadgaran-Amin road and Building Company

#### INTERN & STRUCTURAL SUPERVISION

- Design and Analysis For Complex Industrial Structures

Isfahan, Iran

June 2017 – Aug. 2019

### Isfahan University of Technology

#### Stability Analysis for Composite Plates & Shells

##### GRADUATE RESEARCH ASSISTANT (ADVISOR: PROF. MOJTABA AZHARI, PROF. SAEID SARRAMI)

- Advanced Mathematical Modeling For Free Vibration, Thermal and Mechanical Buckling of Functionally Graded Plates (FGM) Resting on Elastic Foundation Using Spline Finite Strip Method and Third Order Shear Deformation Theory (TSDT)

Isfahan, Iran

2019 - Dec. 2020

### Isfahan University of Technology, E-learning Center

#### LECTURE

- Beginning C++ Programming
- Python Beginner to Expert
- Python Data Science Packages & Data visualization

Isfahan, Iran

2019 - 2020

Sept. 2019 – Dec. 2020

Jan. 2020 - Apr 2021

Feb. 2021 - Apr 2021

## Honors & Awards

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|------|---|---------------|
| 2019 | <b>Membership Award</b> , National Foundation of the Elites | Tehran, Iran  |
| 2015 | <b>3rd Place</b> , ACI Concrete Competition                 | Tehran, Iran  |
| 2016 | <b>3rd Place</b> , ICI Concrete Competition                 | Yazd, Iran    |
| 2016 | <b>3rd Place</b> , ICI Concrete Competition                 | Yazd, Iran    |
| 2012 | <b>Success in 1st stage</b> , Mathematics Olympiad          | Isfahan, Iran |

## Journal Papers

**M. Foroughi**, S. Sarrami & M. Azhari, "Free Vibration and Stability Analysis of Functionally Graded Plates on Elastic Foundation Based on 2D and Quasi-3D Shear Deformation Theory using B3-Spline Finite Strip Method.," **(Under Preparation)** for submission to **Thin-Walled Structures**.

## Conference Papers

#### Published/In Press

**M. Foroughi**, S. Sarrami, M. Azhari "Buckling of FGM Plates on elastic foundation based on 2D and quasi-3D shear deformation theories," **(Accepted)** To be presented in 12th International Congress On Civil Engineering, Ferdowsi University, Mashhad, Iran, 2021.

# Thesis

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**Master Thesis**   **Mohammad Foroughi**, "Free Vibration and Stability Analysis of Functionally Graded Plates on Elastic Foundation Based on 2D and Quasi-3D Shear Deformation Theory using Finite Strip Method.", M.Sc. Thesis, Isfahan University of Technology, January 2021.

# Coursework

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**Civil Engineering**   Statics and Mechanics of Materials, Systems Engineering, Structural Analysis, Steel Structures, Seismic Design of Steel Structures, Finite Elements method, Solid Mechanics for Structures, Structural Dynamics, Theory of Elasticity, Mathematics, Engineering Mathematics, Statistics & Probability .

# Professional Memberships

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**National Foundation of Elites.** Iran  
**MEMBER** Since 2019

# Participated Conferences And Workshops

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**12th International Congress on Civil Engineering, Ferdowsi University** Mashhad, Iran  
ORAL PRESENTATION 2021

- Buckling of FGM Plates on elastic foundation based on 2D and quasi-3D shear deformation theories

**The 40-hours workshop was focused on ML Mathematics algorithms & Data cleaning.** Esfahan, Iran  
PARTICIPANT Oct 2019 - Apr 2020

- AI & Machine Learning with Python, instructed by Isfahan University of Technology E-Learning Center.

# Skills

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<b>Programming</b>	Python, R, MATLAB, C++, $\LaTeX$
<b>Database</b>	MangoDB, SQL
<b>Software</b>	Abaqus FEA, SolidWorks, SAP2000, ETABS
<b>Hardware</b>	Raspberry Pi 4
<b>Web Developing</b>	HTML, CSS3, JS, Bootstrap, Django Vs React (beginner)
<b>Languages</b>	Farsi- Native, English – Fluent