Mohammad **Foroughi**

Prospective PhD Student

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Education

Isfahan University of Technology *Isfahan, Iran*

M.Sc. in Structural & Earthquake Engineering **(GPA: 17.32/20.00)** *Sept. 2018- Nov. 2021*

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

Azad University- Najafabad Branch *Isfahan, Iran*

B.Sc. in Civil Engineering **(GPA: 17.28/20.00)** *Sept. 2013- sep. 2017*

Research Interests

Statistical and probabilistic modeling in Structural Engineering	Statistical Learning and Probabilistic Modeling of Seismic hazards, Application of Probability on Risk & Reliability Analysis & Uncertainty Quantification
Infrastructural Resilience	Seismic Resilience and Sustainable Design, Structural Dynamics for Natural Hazard Mitigation, Numerical Modeling for Natural Hazard Mitigation, Damage Assessment, Fluid-Soil-Structure Interactions
Computational Mechanics & Structural Engineering	Structural Matrix Analysis Finite Element Modeling & Analysis for Stability, Fatigue and Fracture, Plates, Shells, Composite Structures, Soil Structure Interaction
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 **Developing Finite Element programs using Matlab for analyzing the performance of plates under different loading conditions**, Related to “Finite Element Method

2017 **Developing matrix analysis program using Matlab for Truss under different loading conditions**, Related to “Finite Element Method

2017 **Comprehensive design of 7-story steel-framed building**, Related to “Steel Structures Project”

2017 **Comprehensive design of a 7-Story reinforced concrete Building**, Related to “Concrete Structures Project

2017 **Prestressed Concrete 3-span Bridge design using CSIBridge software**, Related to ”Principles of Bridge Engineering

2017 **Estimation and cost analysis for a 5-story building**, Related to ”Quantity Surveying and Estimating & Project”

2016 **Design Road and pavement for a 2-miles road Using Civil3D Software**, Related to ”Road-making Project”

2016 **Programming the Calculation of Horizontal Force & Moment analysis for a Concrete Dam by Considering Seismic Coefficient In MATLAB**, Related to ”Design and Analysis of Concrete dams”

2015 **Time & cost analysis for a construction project management criteria**, Related to ”Systems Engineering”

Independent Projects

2023 **Developing an advanced software to facilitate surveying using Global Positioning System (GPS),** QML, Qt C++, Python, GPS Neo6m, SIM800L, Raspberry Pi, VPS Linux

Skills

Programming	Python, R, MATLAB, C++, LaTeX
Data Science & ML Packages	Numpy, Pandas, Sympy, Matplotlib, openCV, Beautiful Soup
Software Development	Qt
Software	Abaqus FEA, SolidWorks, SAP2000, ETABS, FEniCs
Database	MongoDB, SQLLite3
IOT & Hardware	Raspberry Pi 4, GPS Neo 6m, SIM800L, Arduino
Operation System	Linux (Ubuntu & Debian), Windows
Languages	Farsi- Native, English – Fluent

Professional Experience

Azad University - Isfahan (Najafabad) Branch *Isfahan, Iran*

Lecturer *June. 2019 - Aug. 2021*

- CE-EN0104 - Structural Analysis I — Sept. 2019 – Dec. 2020
- CE-EN0114 - Steel Structures — Jan. 2020 - May 2021

Abadgaran-Amin road and Building Company *Isfahan, Iran*

Intern & Structural Supervision *June 2017 – Aug. 2019*

- Design and Analysis For Complex Industrial Structures

Isfahan University of Technology

Stability Analysis for Composite Plates & Shells *Isfahan, Iran*

Graduate Research Assistant (**Advisor:** Prof. Mojtaba Azhari, Prof. Saeid Sarrami) *2019 - Dec. 2020*

- 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 University of Technology, E-learning Center *Isfahan, Iran*

Lecture *2019 - 2020*

- Beginning C++ Programming — Sept. 2019 – Dec. 2020
- Python Beginner to Expert — Jan. 2020 - Apr 2021
- Python Data Science Packages & Data visualization — Feb. 2021 - Apr 2021

Honors & Awards

2019 **Membership Award,** National Foundation of the Elites *Tehran, Iran*

2015 **3rd Place,** ACI Concrete Competition *Tehran, Iran*

2016 **3rd Place,** ICI Concrete Competition *Yazd, Iran*

Publications and Proceeding

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

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**.

Thesis

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

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 .

Participated Conferences And Workshops

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.

REFERENCES

Mojtaba Azhari, Ph.D.

Professor / M.Sc Advisor

- Professor, Department of Civil Engineering, Isfahan University of Technology (IUT), Isfahan, Iran
- **Phone**: +98 313 3913804
- **E-mail**: mojtaba@iut.ac.ir

Saeid Sarrami, Ph.D.

Associate Professor / M.Sc Co-Advisor

- Associate Professor, Professor, Department of Civil Engineering, Isfahan University of Technology (IUT), Isfahan, Iran
- **Phone**: +98 313 3913816
- **E-mail**: sarrami@iut.ac.ir

Ali Hendi, Ph.D.

Assistant Professor

- Assistant Professor, Professor, Department of Civil Engineering, Azad University, Isfahan, Iran
- **Phone**: +98 913 3388369
- **E-mail**: ali.hendi@iaukhsh.ac.ir