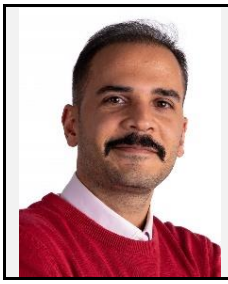
## Contact Information




**Ph.D. Mohammad M[redacted]**

(+39) 3518187966

[redacted]

Italy, Milan, Via Maggianico 6

21/12/1990

Iranian, with valid working permit in Europe

LinkedIn


## Skills

Over 7 years of experience in structural analysis and simulation, mechanical design, technical background in automotive engineering, with strong Research and Development (R&D) skills.

**Technical Skills**

- ✓ Finite Element Analysis (FEA) including linear/non-linear and static/dynamic
- ✓ 2D and 3D design and assembly (CAD)
- ✓ Structural and fatigue analysis
- ✓ Material characterization
- ✓ Machine learning
- ✓ Structural Health Monitoring (SHM)
- ✓ Non-Destructive Testing (NDT)
- ✓ Design of Experiments (DoE)
- ✓ Prototyping, optimization, and validation

**Software Proficiency: FEA**

- ✓ ABAQUS
- ✓ COMSOL
- ✓ HyperMesh
- ✓ Ansys Fluent

**Software Proficiency: CAD**

- ✓ SolidWorks
- ✓ Catia
- ✓ Siemens NX
- ✓ PTC Creo

**Programming Language**

- ✓ MATLAB
- ✓ PYTHON
- ✓ LabVIEW
- ✓ C++

## Work Experience

**Structural and CAE Engineer** | **Politecnico di Milano (PoliMi)** | **November 2020 to June 2024** | **Milan, Italy**

- Designed and performed experiments for the structural analysis of adhesive joints to enhance their performance under static and fatigue loadings.
- Developed and implemented innovative experimental methods including the use of optical fiber and image correlation for monitoring crack damage to ensure the structural integrity of adhesive joints.
- Employed FEM for simulation of structural behavior and analyzing crack growth to improve the reliability of the bonded joint components.
- Utilized stochastic finite element-based optimization techniques for material characterization, capable of identifying the material behavior to optimize the design and all costs associated with manufacturing.

**FEM Analyst | Collaboration between PoliMi and Brembo S.p.A.| September 2021 to February 2022 | Milan, Italy**

- Conducted experimental strain analyses on brake calipers to measure strain under bending loads, utilizing strain gauges placed at various points on the caliper.
- Conducted FEM analyses to determine stress distribution, contributing to the improvement of design and safety.

**NDT Engineer** | **Pasargad Energy Development Co. (PEDC)** | **September 2019 to October 2020** | **Tehran, Iran**

- In-situ validating anomalies of smart pigging for gas pipelines using advanced NDT techniques such as UT.
- Conducted FEM simulation and performed comprehensive analysis of defects in coated pipelines.
- Prepared and presented technical reports to the management.

**Teaching Assistant in CAD design** | **Shahid Beheshti University** | **September 2017 to September 2019** | **Tehran, Iran**

- Assisted in teaching “CAD design for mechanical engineers” course with a focus on SolidWorks and Catia.

**Automotive Engineer Intern** | **Iran Khodro (IKCO)** | **July 2013 to January 2014** | **Zarandieh County, Iran**

- Identified, analyzed, and troubleshot problems across various automobile systems using diagnostic devices.
- Collaborated with engineering teams and documented findings in technical reports.

## Education

| Date | Description |
|---|---|
| November 2020 – June 2024 | **Ph.D.** in Mechanical Engineering (Machine and vehicle design)<br>**Politecnico di Milano**, Milan, Italy |
| September 2016 – July 2019 | **M.Sc.** in Mechanical Engineering (Design and manufacturing)<br>**Shahid Beheshti University**, Tehran, Iran |
| February 2012 – February 2014 | **B.Sc.** in Mechanical Engineering (Automotive engineering)<br>**Shahid Montazeri Technical University**, Mashhad, Iran |
| September 2008 – February 2011 | **A.Sc.** in Mechanical Engineering (Automotive engineering)<br>**Amirkabir Technical University**, Arak, Iran |

## Honors & Awards

- Awarded full scholarship in **University of Politecnico di Milano** for PhD in mechanical engineering department (DMEC) for 3 years, from 2020 to 2023.
- Received a full scholarship for a PhD in Structural Health Monitoring in 2019 at **New Mexico State University** (NMSU), USA, and **Ehime University**, Japan.
- Membership in Iranian Corrosion Association (ICA).
- Coordinator of 8th international conference on acoustic and vibration-ISAV2018, SBU, Tehran, Iran.

## Selected Publications (Google scholar link)

- **M. Mehrabi**, M. H. Soorgee, H. Habibi, V. Kappatos. "A novel application of ultrasonic Lamb waves: studying adhesive effects on the inspection of coating debonding in a three-layer waveguide", Nondestructive Testing and Evaluation (DOI: https://doi.org/10.1080/10589759.2020.1843653)
- **M. Mehrabi**, M. H. Soorgee, H. Habibi, V. Kappatos. "An experimental technique for evaluating viscoelastic damping using ultrasonic guided waves", Ultrasonics (DOI: https://doi.org/10.1016/j.ultras.2022.106707).
- **M. Mehrabi**, L.M. Martulli, A. Bernasconi, M. Carboni. "Estimating crack tip position in adhesively bonded joints subjected to mode II quasi-static loading", Fatigue & Fracture of Engineering Materials & Structures (DOI: https://doi.org/10.1111/ffe.14237)
- **M. Mehrabi**, L.M. Martulli, A. Bernasconi, M. Carboni. "Estimation of crack tip position in adhesively bonded joints subjected to mode II fatigue loading", submitted to Fatigue & Fracture of Engineering Materials & Structures Journal

## Languages

- **Persian:** Native
- **English:** Professional working proficiency - C1
- **Italian:** Developing - A2
- **German:** Familiar - A1