

# Mohsen Fatehi | Curriculum Vitae

## Education

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**Free University of Bolzano**

*PhD Candidate-Sustainable Energy and Technology*

**Bolzano, Italy**

*2022-Now*

**Isfahan University of Technology**

*M.Sc. of Mechanical Engineering (Energy Conversion), GPA – 3.48/4(16.59/20)*

**Isfahan, Iran**

*2009-2012*

**Islamic Azad University of Tabriz**

*B.Sc. of Mechanical Engineering (Fluid Mechanics), GPA – 3.10/4(14.74/20)*

**Tabriz, Iran**

*2003-2008*

## Research Interests

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### Computational Fluid Dynamic

- Numerical Modelling of 2D and 3D Turbulent Flows
- Combustion
- Hydrogen based and alternative fuel combustion.
- Mixing and reaction in turbulent flows

### Turbo Machinery Flow

- Gas Turbine
- Turbo Compressor

## Publications

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- **Fatehi Mohsen**, K. Norouzi, Failure Analysis of the Third Row Blades of GE-F6 Gas Turbine, “*Advanced Structural Mechanics*”, 2022
- **Fatehi Mohsen**, Graziano Campaldini, Massimiliano Renzi, Micro Gas Turbine Fed with Ammonia as Fuel: Performance Analysis and NO<sub>x</sub> Emissions Reduction, “*Proceedings of the ASME Turbo Expo 2024*”, London-United Kingdom (**Accepted**)
- **Fatehi Mohsen**, Graziano Campaldini, Massimiliano Renzi, Performance Analysis of a Micro Gas Turbine Fed by Ammonia as Fuel with Steam Injection, *3rd International Symposium on Industrial Engineering and Automation*, Bolzano-Italy (**Accepted**)

## Academic Background

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### Research and Teaching Assistant Experiences

- **Second Supervisor** in master thesis “Modelling and design adaptation of a micro-gas turbine combustor for ammonia combustion”, Free University of Bolzano, 2024
- **Second Supervisor** in bachelor thesis “CFD simulation of syngas combustion and flame”, Free University of Bolzano, 2024
- **Teacher Assistant** in Advanced Methods for Fluid Machine design lectured by Dr. Caligiuri Carlo, Free University of Bolzano. (2024)
- **Research Assistant** in Optimization of Fuel Consumption in Combustion Chamber of Turbo-compressors, Isfahan University of Technology (IUT), 2012
- **Research Assistant** in Numerical simulation of compressor and turbine blades of MGT-40 gas turbine, Isfahan University of Technology (IUT), 2013
- **Teacher Assistant** in Thermodynamic I course for undergraduate students lectured by Dr. Davazdah Emami, Isfahan University of Technology, Isfahan, Iran. (Fall 2011)

### Selected Accomplished Projects

- Calculation of heat and cold loads of a dormitory with 347 rooms and design of HVAC systems and optimization of energy consumption in it.
- simulation of super heat tubes in boilers of steam power plant in order to stress measurement.

## Practical Experience

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Experienced as Member of a Team Called Energy Audit Team at “SAMAN ENERGY Co.”, work as energy expert with state-of-the-art programming team in C++ to design a smart software for power plant energy audit, 2012-2014.

An engineering consulting company specialized the following fields:

- Engineering Consultancy
- Energy Auditing & Study

To provide high quality professional services on complex design and optimization problems, by presenting innovative solution.

Experienced as Member of Engineering Department at “MAPNA Group.” 2014-2022.

- Work as Mechanical Expert in a gas turbine design team:
  - Special focus laid on design and optimization of major gas turbine components such as compressor, combustion chamber and turbine for power plant and gas compressor station. My task in this team has been to perform calculations using computational fluid dynamics methods and to analyze the output results.
  - Selecting rotary equipment (pumps and blowers) for auxiliaries and accessories such as cooling and fuel systems.

## Honor and Awards

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**2008:** Member of Iran Building Engineering Organization

**2009:** Admitted as an M.Sc. student in one of the 5 top universities in Iran.

**2014:** Have designing and supervision certificate in HVAC field from Building Engineering Organization of Iran

**2017:** Have Inspection certificate in domestic natural gas field from Building Engineering Organization of Iran

## Certificates

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| • Sep-2009 | <b>Fluent and Gambit</b>   | Isfahan University of Technology, Iran |
| • Oct-2012 | <b>Piping system and pump selecting</b>  | Isfahan Saman Energy Co., Iran         |
| • Oct-2015 | <b>Inspection of domestic natural gas-Chapter 17 of Iran National Building Regulations</b> | University of Kurdistan, Iran          |
| • Jan-2019 | <b>Advanced Compressor design</b>  | PETEC Group, Iran                      |
| • Sep-2019 | <b>Advanced Gas and Steam Turbine design</b>   | PETEC Group, Iran                      |

## Personal Skills

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### Software

- **Advance:** Fortran, ANSYS/CFX/Fluent, AutoCAD, Microsoft Office Suite.
- **Intermediate:** Open Foam, Linux, MATLAB.

### Language

- **Native:** Kurdish, Persian.
- **Fluent:** English.
- **German:** Basic (A2)

### Test Score

- **IELTS Academic 7.0/9.0** (Listening: 7.5/9, Reading: 6.5/9, Writing: 6.5/9, Speaking: 6.5/9)

### Extracurricular Activities

- Table Tennis, Swimming.
- Travel, Movie.

### Others

- Ability and experience to do team working
- High public relations
- Eager to solve challenging problems

**Date 28/07/2024**