



Mohammad Ghoreishi

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Address: via san vincenzo 46, 05100, Terni, Italy (Home) |

Address: Via Bruno Capponi, 100, 05100 Terni TR, 05100, Terni, Italy (Work)

● ABOUT ME

Energetic Mechanical Engineer
PhD student in Engineering and Applied Science for Energy and Industry

● WORK EXPERIENCE

11/2022 – CURRENT Terni, Italy

INDUSTRIAL PHD STUDENT ASM TERNI S.P.A.

- Working on and following European Projects
 - BD4NRG: Big Data for Next Generation Energy
 - IoT-NGIN: IoT as a part of the European Next Generation Internet
 - I-ENERGY: An EU funded initiative, aiming to support and develop new AI-based energy services
- Working on Waste Fleet Management
 - Optimize fleet operation
- Research activities at Sapienza University of Rome

01/05/2021 – 01/08/2021 Rome, Italy

INTERN ENEA

Analyzed and optimized a procedure for the treatment of fluid waste with high environmental impact. Researched plasma arc technology and reactors, disposal of process water from syngas, and gasification in conditions of low environmental effect.

Used a computational fluid dynamics instrument to assist numerical data feedback in the energy production process.

Assisted in the development of an innovative material to produce purifying filters in gasification plants.

21/05/2016 – 20/11/2016 Tehran, Iran

INTERN DANA ENERGY

Undertook research and analysis on offset drilling data and drilling technologies.

Employed an artificial neural network to evaluate parameters in the drilling industry using MATLAB.

Reported results to the senior manager weekly.

● EDUCATION AND TRAINING

11/2022 – CURRENT Rome, Italy

INDUSTRIAL PHD STUDENT IN ENGINEERING AND APPLIED SCIENCE FOR ENERGY AND INDUSTRY Sapienza University of Rome

Title: Digital Twin for Energy Transition.

Website <https://www.uniroma1.it/it/pagina-strutturale/home>

01/09/2021 – 30/05/2022 Leuven, Belgium

ERASMUS STUDENT - MASTER THESIS KU Leuven - Campus group T

Designed a gas supply and mixing station for the combustor test facility.

Designed manufacturing procedures, processes, and production layouts for equipment ordering and installation.

Liaised with external engineering managers, suppliers, and manufacturers to outline the optimum design.

Investigated the calculation and optimization of flow rate and tube size in the oxy-combustion of natural gas and hydrogen mixtures with oxygen.

Researched the laminar flame speed of gaseous fuels and the management system in industrial and experimental burners.

Address Oude Markt 13 - bus 5005, 3000, Leuven, Belgium | **Website** <https://www.kuleuven.be/english/kuleuven/> |

Field of study Mechanics and metal trades , Electricity and energy | **Type of credits** CFU | **Number of credits** 21 |

Thesis Implementing a gaseous fuel mixing system to use in a 30 kW burner.

01/09/2019 – CURRENT Rome, Italy

MASTER IN ENERGY ENGINEERING Sapienza University of Rome

Address Piazzale Aldo Moro 5, 00185, Rome, Italy | **Website** <https://www.uniroma1.it/it/pagina-strutturale/home>

01/09/2012 – 01/09/2016 Tehran, Iran

BACHELOR IN PETROLEUM ENGINEERING Islamic Azad University, Science and Research Branch

Address Science and Research Branch, Daneshgah Blvd, Simon Bulivar Blvd, Tehran, 1477893855, Tehran, Iran |

Website <http://srbiau.ac.ir/en>

● LANGUAGE SKILLS

Mother tongue(s): **PERSIAN** | **KURDISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
ITALIAN	B1	B1	B1	B1	B1
FRENCH	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● DIGITAL SKILLS

DIALUX | MATLABSimulink | Microsoft Office | eXteem | i-Project | Basics Of Python | Artificial Intelligence | Knowledge of sizing photovoltaic systems | • Thermo and fluid dynamics systems | ANSYS / Basic | pvSyst | Machine Learning | Landmark | Drilling Office | PETREL software

● ADDITIONAL INFORMATION

PUBLICATIONS

Targeted demand response for flexible energy communities using clustering techniques – 2023

Optimizing EV Company Fleet Management in an Energy District – 2023

Plasma-Arc-Flow Technology for Sustainable Treatment of High-Impact Fluid Waste: A Graphene-Based Material for In-dustrial-Wastewater Purification

– 2023

Impact of an ML-Based Demand Response Mechanism on the Electrical Distribution Network: A Case Study in Terni

– 2023

Optimizing EV Company Fleet Management in an Energy District – 2023

Implementing a gaseous fuel mixing system to use in a 30 kW burner and survey on laminar flame speed

– 2023

DRIVING LICENCE

Driving Licence: B

CONFERENCES AND SEMINARS

04/2018 – Ahvaz Technical Training Center-NISOC

The Value of Pore Scale Physics For Reservoir Engineering

04/2018 – Ahvaz Technical Training Center-NISOC

Over-pressurizati on in EOR and Storage Projects

12/2016 – Dana Energy Group, SPE, Amir kabir University of Technology, Tehran, Iran

Bit Selection Optimization

03/2016 – Negareh Institute, Tehran , Iran

Simulation of drilling operations of oil and gas wells with Drilling Office software

PROJECTS

06/2022 – 07/2022

Design, modelling, and analysis of grid-connected system using pvsyst

- Supplying 157 MWh to the user from solar.
- Supplying 52.8 MWh to grid.

09/2021 – 05/2022

Implementing a gaseous fuel mixing system to use in a 30 kW burner.

- Master thesis - Erasmus+ program at KU Leuven

05/2021 – 02/2022

An innovative depuration system integrated to sustain a pyro-gasification plant

- Internship - ENEA
- Analyze and optimize a procedure for the treatment of fluid waste using plasma technology (Plasma Arc Flow)
- Correct disposal of process water from syngas cleaning
- Find commonalities obtained in similar technologies using computational fluid dynamics instrument
- GRAFIM material in the purification of wastewater and used in the construction of purifying finesse filters

03/2021 – 04/2021

Design, modelling, and analysis of floating solar PV on the lake using MATLAB simulink

- Increase generated output power by 2.5% using floating installation on Chitgar Lake.

09/2020 – 02/2021

Development and techno-economic analysis of energy solutions to reduce energy consumption

- Energy Management course (Refrigerator case study)
- Supplying 100% heat water and lighting demand by Solar collector
- Supplying 64.8% of cooling demand

06/2020 – 11/2020

Simulation of energy strategies using smart methodology and Matlab software

- Smart Cities course

02/2018 – 01/2019

Estimation and reduction of trip and connection time in Iran's drilling industry by MATLAB and Neural Network.

VOLUNTEERING

2021 – CURRENT Faculty of Civil and Industrial Engineering - Sapienza University of Rome.

Member of energy board of directors (CDA).

CERTIFICATES

08/2022 – CURRENT

Unsupervised Learning, Recommenders, Reinforcement Learning

- Use unsupervised learning techniques for unsupervised learning: including clustering and anomaly detection.
- Build recommender systems with a collaborative filtering approach and a content-based deep learning method.
- Build a deep reinforcement learning model.

08/2022 – CURRENT

Advanced Learning Algorithms

- Build and train a neural network with TensorFlow to perform multi-class classification
- Apply best practices for machine learning development so that your models generalize to data and tasks in the real world
- Build and use decision trees and tree ensemble methods, including random forests and boosted trees

07/2022 – 08/2022

Supervised Machine Learning: Regression and Classification

- Supervised Machine Learning: Regression and Classification presented by DeepLearning.AI & Stanford University - Coursera.
- Build machine learning models in Python using popular machine learning libraries NumPy and scikit-learn.
- Build and train supervised machine learning models for prediction and binary classification tasks, including linear regression and logistic regression.

Link <https://coursera.org/share/b6cc7f395650a80f3f425ec30b93c35e>

07/2022 – 08/2022

Crash Course on Python

- Crash Course on Python presented by Google Career Certificates - Coursera.
- Understand how to use the basic Python structures: strings, lists, and dictionaries.
- Write short Python scripts to perform automated actions.

Link <https://coursera.org/share/5e960a818ae0cf33fd7c99e3de1736f9>

03/2021 – 04/2021

Solar Energy Basics

- Solar Energy Basics presented by The State University of New York - Coursera
- Calculate the energy usage at a location
- Design a basic photovoltaic system to meet a specific energy need at a specific location
- Describe financial models and trends in the photovoltaic energy field

Link <https://coursera.org/share/493a5860c4b269813aff6afece6fcbd8>

03/2021 – 06/2021

Photovoltaic Systems

- Photovoltaic Systems presented by Technical University of Denmark (DTU) - Coursera
- Photovoltaic Energy Conversion
- Modelling of the Solar Resource
- Photovoltaic System Design and Energy Yield Simulations
- Photovoltaic System Components

Link <https://coursera.org/share/f02eeb4d199d1f898c08e286dbf13f2e>

04/2021 – 07/2021

Solar Energy Systems Design

- Solar Energy Systems Design presented by The State University of New York - Coursera
- Following solar energy from source to panel
- PV module and array circuits
- PV sizing and output under different conditions
- Grid-tie PV System design under real-world conditions

Link <https://coursera.org/share/f7a618442aa2297c07813eac7439c00b>

REFERENCES

Dr. Alberto Geri

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Department of Astronautical, Electrical and Energy Engineering
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Ing. Massimo Cresta

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ASM Terni, Terni, Italy
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