MOHAMMAD FARAJINEJAD

Electrical Engineer

mohammad.farajinejad01@universitadipavia.it
Pavia, Italy
+39 3349422731
www.linkedin.com/in/MohammadmatinFarajinejad

DESCRIPTION

Dedicated and motivated Electrical Engineering graduate and active member of the Power Electronics Team at the University of Pavia, with a solid academic background and hands-on experience in power electronics and renewable energy systems. Skilled in the design, simulation, and implementation of advanced power electronic converters, with a particular focus on real-time systems, energy storage, and smart grids. Proficient in industry-standard tools and hardware testing platforms, including OPAL-RT, RT-LAB, MATLAB/Simulink, and Altium Designer. Proven ability to thrive in collaborative research environments and contribute effectively to interdisciplinary teams. Passionate about advancing sustainable energy through innovative power electronics. Seeking to contribute to impactful R&D in a PhD program.

EDUCATION

University of Pavia

Ph.D. in Electrical Engineering Oct.2025- Present

Supervisors: Professor Zanchetta and Dott.ssa Giulia Tresca

Collaboration with NIDEC ASL S.p.A. Company

Research focus: Enhanced-STATCOM using supercapacitors for active and reactive power Compensation System.

University of Pavia

Oct.2022- Dec.2024

M.Sc. in Electrical Engineering

Supervisors: Professor Zanchetta and Dott.ssa Giulia Tresca

Thesis: Design and Implementation of an isolated ADC for battery voltage measurement in a Modular Converter with Reconfigurable Battery Modules (RBM).

- **Description**:

Developed a high-precision isolated analog-to-digital converter (ADC) system integrated with FPGA control for real-time battery voltage monitoring in a modular three-phase cascaded H-bridge converter. The system enabled dynamic configuration of battery modules, improving measurement accuracy, safety, and control flexibility for energy storage applications.

University of N.J Isfahan

Sep.2011- Jul.2015

B.Sc. in Electrical Technology Engineering

thesis: Design and Optimization of Solar Power Plants.

- **Description**:

Examining the latest improvements in photovoltaic (PV) cells and concentrating solar power (CSP) systems to enhance energy capture and operational efficiency.

EXPERIENCE

University of Pavia and NIDEC ASI S.p.A, Italy Oct.2024 – Current

- Power electronic Researcher

Leading research and real-time simulation of a STATCOM Reactive Power Compensation System integrated with Energy Storage for grid stability applications.

Designing, implementing, and testing the system using Hardware-in-the-Loop (HIL) techniques on real-time simulation platforms (e.g., OPAL-RT, RT-LAB)

Collaborating with academic and industry partners to bridge R&D with practical deployment in smart grid environments.

Green Zoone S.R.L.S, Pavia, Italy Nov.2023 - Apr.2024

- Solar engineer and Technical Specialist.

Carried out over 50 small and large photovoltaic system projects.

Industrial Electrician, Cement Factory, Iran Sep.2016 - Jun.2020

- Electrical engineer.

Installed, repaired, and maintained various electrical components and equipment, "including control panels, transformers, and converters" in the electrical department of the factory

SKILES

Software Tools and Technical Skills

- LTspice
- Proteus
- PSpice
- PLECS
- PVsyst
- Altium Designer
- MATLAB/Simulink
- RT-LAB
- Simcenter MAGNET
- PLC Programming
- Project Management
- Team Leadership

LANGUAGE

- **English** ---------- **B2**
- **Italian** ---------- **A2**
- **Persian** ---------- **Native**

CERTIFICATES

- Photovoltaic systems simulation training course with PVSyst software - Iran,2019
- Design and installation of Residential & Commercial Photovoltaic Systems - Iran,2019
- PLC programming, with a focus on the Siemens LOGO - Iran,2016

HOBBIES and INTERESTS

- Playing Basketball
- Playing Volleyball

- DIY Power Electronics Projects
- Volunteer activities
- Traveling to explore new places and cultures

REFERENCES

- University of Pavia/ Professor Pericle Zanchetta

pericle.zanchetta@unipv.it

- University of Pavia/ Dott.ssa Giulia Tresca

Giulia.tresca@unipv.it