



Lorenzo Gambadori

WORK EXPERIENCE

internship

Università Politecnica delle Marche [01/01/2024 – 01/07/2024]

City: ancona | **Country:** Italy

- Engineered a mathematical model in Python to predict the consumption patterns of PEMEL systems under arbitrary temperature and pressure conditions. The model was validated using experimental data from an electrolyser operating at different temperatures and pressures, obtained from Westfälische Hochschule in collaboration with Dr. Florian Josef Wirkert.
- The model enables precise prediction of the optimal balance between technical requirements, such as the operating pressure of the system and the hydrogen produced, and the energy costs required to power the system, facilitating efficient resource management and cost savings in hydrogen production.
- Acquired advanced expertise in electrolyser technologies, specifically in optimizing their operation to enhance efficiency and reduce operational costs.

internship

Loccioni Group [01/03/2023 – 01/07/2023]

City: Moie | **Country:** Italy

- Designed a 100 kWh battery energy storage system (BESS) utilizing second-life batteries, cutting initial investment costs by approximately 50% and enhancing plant energy self-sufficiency.
- Developed baselines and forecasts for photovoltaic plant production and consumption through advanced operational planning, significantly increasing efficiency.
- Utilized Siemens NX for the CAD design of BESS supports, conducting cost analysis with LeanCost software which reduced support structure costs by about 30%.
- Calculated financial returns, achieving annual savings of €4,800, with a payback period of 10 years and a net present value (NPV) of €25,000 over 20 years.
- Contributed to environmental sustainability by reducing carbon dioxide emissions by 9 tonnes annually through the full utilization of photovoltaic-generated energy.

volunteer

Oratorio Don Bosco Monsano [01/01/2016 – Current]

City: monsano | **Country:** Italy

- Led educational programs for children and adolescents (8-18), promoting intellectual, social, and personal growth through diverse activities in a nurturing environment.
- Demonstrated teamwork and leadership, enhancing team cohesion and educational outcomes by collaborating with educators and integrating insights from professional development workshops.
- Championed diversity and inclusion, leveraging unique talents and fostering a supportive atmosphere to improve team dynamics and tackle workplace challenges.
- Developed educational skills and cross-cultural insights by participating in the Don Bosco Youth Net (DBYN) project, collaborating with European volunteers to share best practices and innovate teaching strategies.

EDUCATION AND TRAINING

Mechanical Engineer

università politecnica delle marche [02/08/2022 – 17/07/2024]

City: Ancona | **Country:** Italy | **Website:** www.univpm.it | **Field(s) of study:** Energy engineering | **Final grade:** 110 cum laude

| **Level in EQF:** EQF level 7 | **NQF Level:** Master degree | **Type of credits:** CFU | **Number of credits:** 120 | **Thesis:**

Development and assessment of a Python-based model for resembling the polarisation curves of PEM electrolysers at different operating conditions.

Relevant coursework treated:

- Design of Renewable Energy Systems: 30/30
- Design and Management of Storage Systems: 30/30
- Energy Conversion Systems: 29/30
- Energy Measurement and Control: 30/30 with honors
- Python Programming: 30/30
- Heat Transfer: 30/30 with honors
- Business Economics: 30/30
- Computational Fluid Dynamics: 30/30 with honors
- Propulsion Systems for Automotive: 30/30 with honors
- Air Conditioning Systems: 30/30
- Refrigeration Technology: 30/30
- Product Engineering: 30/30

Mechanical Engineer

università politecnica delle marche [01/09/2019 – 22/07/2022]

City: ancona | **Country:** Italy | **Website:** www.univpm.it | **Level in EQF:** EQF level 6

LANGUAGE SKILLS

Mother tongue(s): Italian

Other language(s):

English

LISTENING B2 **READING** B2 **WRITING** B2

SPOKEN PRODUCTION B2 **SPOKEN INTERACTION** B2

Spanish

LISTENING A2 **READING** A2 **WRITING** A1

SPOKEN PRODUCTION A2 **SPOKEN INTERACTION** A2

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

DIGITAL SKILLS

Microsoft Office / Microsoft Excel / Text processing (Word, LaTeX)/ Matlab/Simulink / Siemens NX / Python / Aspen HYSYS & Aspen Plus / AutoCad 2D -3D / ANSYS CFD (basic)

COMMUNICATION AND INTERPERSONAL SKILLS

Professional and personal attributes Professional Skills

- Communication Skills: Effective at conveying information and ideas in both technical and non-technical environments.
- Leadership: Proven track record in leading teams towards achieving project goals.
- Teamwork: Demonstrated ability to collaborate effectively with diverse teams.
- Continuous Learning: Committed to continually upgrading skills and knowledge through ongoing education and professional development.

Personal Attributes

- Flexibility: Adaptable to rapidly changing environments and requirements.
- Stress Resilience: Capable of maintaining calm and focus under high pressure and challenging situations.
- Planning Ability: Excellent at strategizing and organizing resources and tasks efficiently.
- Initiative: Recognized for proactive approach and ability to identify and pursue opportunities.

PROJECTS

[01/09/2023 – 20/12/2023]

Assesment of different power train solution for Hyundai Sonata Comparison between classic internal combustion, hybrid and electrical engine in order to study performances and consumption of the Hyundai Sonata in different operative conditions.