





BSC JOCELLYN LUNA

AI & POWER SYSTEMS RESEARCHER

CONTACT

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EDUCATION

Master's in Computer Science

ESPOL University
Expected: Summer 2025

Bachelor's in Computer Science

ESPOL University
2017 - 2022

SKILLS

- Power System Analysis
- ML and Optimization for Energy
- Data-Driven Energy Forecasting
- Programming (Python, R)
- ML frameworks (Tensorflow, PyTorch)
- Data Analysis and Visualization

LANGUAGES

- Spanish (Native)
- English (C1, TOEFL)

PROJECTS

- AIAS:** Analytics and Artificial Intelligence for Sustainability.
- IPEAR:** Intelligent Planning of Electrification for Agriculture.
- HayIoT:** IoT Data Standardization.

AWARDS & HONORS

- Diploma of Scientific Merit, 2024
- Top 2 Graduate, 34th Promotion of the Computer Science Program, ESPOL University, 2022

REFERENCES

Jose Cordova-Garcia, PhD

ESPOL / Master's supervisor

Email : jecordov@espol.edu.ec



RESEARCH INTERESTS

Advanced machine learning applications in power system optimization, renewable energy integration, smart meters, and predictive modeling to enhance energy resilience and sustainability.



WORK EXPERIENCE

ESPOL - Technical Research Specialist

2023 - PRESENT

- Applied machine learning approaches for agricultural land use prediction (environmental monitoring) and explored the performance of various algorithms when altering the characteristics of training data for learning OPFs.
- Publication Outcomes:** Publications 1 and 4.
- Key Projects:** AIAS

Smart Energy Research Group - Research Assistant

2022 - 2023

- Designed deep learning models for solar irradiance forecasting and contributed to IoT data standardization for smart meter monitoring.
- Publications Outcomes:** Publications 2, 3 and 5.
- Key Projects:** IPEAR, HayIoT

ESPOL - Research Assistant

2020 - 2022

- Developed ML models for deforestation detection in the Amazon (**satellite data, remote sensing**) and brain lesion detection in MRI (**medical imaging**).



PUBLICATIONS

1. Analyzing Data Characteristics for Learning OPFs

2024 IEEE Power & Energy Society (PES) ISGT

Role: developed experiments to compare the performance of different models applied to the power flow problem.

2. Machine Learning for Forecasting Solar Irradiance Using Satellite and Limited Ground Data

2024 Energy Sustainability - ASME

Role: contributed to model design for hybrid data sources and solar forecasting.

3. HayIoT: An IoT Standardization Architecture

2024 IEEE Sensors Applications Symposium (SAS)

Role: Contributed in IoT architecture design and validation for standardizing data in smart meters contexts.

4. CLED: Computer Lab Energy Dataset

2024 IEEE International Symposium on Measurements & Networking (M&N)

Role: Assisted in data collection of a dataset for lab energy consumption.

5. Identifying Data Issues in Networked Energy Monitoring Platforms

2024 IEEE International Symposium on Measurements & Networking (M&N)

Role: Assisted with writing and data visualization to enhance clarity of the findings.

6. Promoting Engagement in Computing Research for Non-CS Majors

2024 IEEE Global Engineering Education Conference (EDUCON)

Role: Co-organized event; developed a theoretical framework for assessing the event's impact on students' research intentions.