Raciel D. Lago

Electrical & AI Engineer

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in www.linkedin.com/in/raciel-lago | 💼 [Portfolio Link] | ⓞ https://github.com/racielago |

📄 [Blog Link] | R⁶ https://www.researchgate.net/profile/Raciel-Lago-2 |

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Professional Summary

I am an Electrical Engineer with dual expertise in Electrical Engineering and Artificial Intelligence, specializing in developing sustainable solutions for energy systems, embedded systems, IoT, and home automation. I have delivered measurable improvements—such as a 15–20% boost in energy efficiency through automated systems—and led cross-functional teams to develop innovative, cost-saving solutions in both industrial and research settings. I invite you to review my portfolio for project demos and detailed case studies that illustrate my impact on technological innovation.

Core Skills

- **Programming & Development**: Python, C/C++, MATLAB, R, Java, Rust, Assembly, Scala.
- **AI & Machine Learning**: TensorFlow, PyTorch, Keras, Scikit-learn, Machine Learning, Deep Learning.
- **Embedded Systems & IoT:** Arduino, ESP32, STM32, Raspberry Pi, nRF52, ARM Cortex, PIC, Atmel AVR, TI MSP430; Bluetooth Low Energy (BLE), RTOS (FreeRTOS, Zephyr).
- **Electrical Engineering:** Circuit Design & Analysis, Power Electronics & Energy Systems, Renewable Energy System, Control Systems & Automation, PLC programming, Simulation & Modeling.
- **Cloud, DevOps & Data:** Docker, Jenkins, Kubernetes, Azure DevOps, MLflow; AWS SageMaker, Google AI Platform; SQL/NoSQL databases, Hadoop, Spark.
- **Data Visualization & Testing:** Tableau, PowerBI, Unit Testing, A/B Testing, Cross-Validation, Performance and Bias Testing.
- **Edge Computing**: Edge AI deployments, Edge frameworks (AWS Greengrass, Azure IoT Edge), Real-time data processing, Edge analytics for local processing.
- **Documentation & Version Control**: Git (GitHub, GitLab), Experiment tracking tools (DVC, MLflow).
- **Soft Skills:** Strategic leadership, team collaboration, problem solving, critical thinking, rapid learning, as demonstrated through the management of an AI Scientific Group and remote collaborations.
- **Languages:** Spanish (Native), English (C1, actively progressing toward C2)

Professional Experience

ILIOSTEC   *Sept 2024 – Jan 2025*

Embedded Systems, IoT, and Home Automation Specialist

- **Automated Solar Dryer System:** Designed and developed a complete Arduino-based solar dryer system, optimizing circuit design and microcontroller programming to achieve a 15–20% improvement in energy efficiency and significant cost reductions. Integrated IoT sensors and automation protocols to monitor and manage energy use in real time.

Founder & Director, AI and Smart Grids Scientific Group   *Feb 2024 – Present*

Electrical & AI Engineer, AI Researcher

- Spearhead AI research projects that integrate machine learning with smart grid technology, resulting in innovative solutions to improve energy distribution and efficiency.

- Lead a multidisciplinary team in developing projects that have garnered recognition in academic and professional circles.

University of Oriente   *Jan 2024 – Present*

Instructor, Electrical Engineering Department

- Teach electrical circuits and related subjects with a focus on real-world applications in AI and energy systems. Mentor and lead research initiatives that have resulted in conference presentations and published work.

Education

Electrical Engineering   *University of Oriente, 2022*

- Graduated with Honors (Golden Degree) as the top student of the faculty.

Featured Projects

- **Personal Projects:**

  - **Wind Turbine Control System:** Developing a reinforcement learning-based control system for wind turbines to optimize energy production.

  - **LSTM – Based Energy Demand Forecasting Model for Santiago de Cuba:** Developed a robust algorithm to accurately predict municipal energy demand, enabling proactive resource planning and efficient grid management.

  - **Hybrid LSTM – XGBoost Photovoltaic Energy Prediction Model:** Developed a hybrid predictive model integrating LSTM networks and XGBoost to forecast photovoltaic energy generation achieving an RMSE of 0.016 kWh versus real measurement.

  - *For detailed project case studies and demos, please refer to my portfolio.*