RACIEL D. LAGO

AIoT Engineer | Smart Energy & Smart Grids | Embedded AI & Industrial IoT

Cuba | +5356950773 |racielago@gmail.com | www.linkedin.com/in/raciel-lago|
https://github.com/racielago | https://racielago.github.io/my-portfolio/

PROFESSIONAL SUMMARY

Electrical Engineer with expertise in Artificial Intelligence (AI), Internet of Things (IoT), and Embedded Systems. Specializing in AI-driven solutions for Smart Energy, Smart Grids, and Industrial IoT. Proven expertise in energy optimization, predictive analytics, real-time AI for embedded systems, AIoT applications in agriculture, sustainability, and automation. **Developed an AI model (LSTM) for energy demand forecasting**, achieving **0.012 kWh RMSE**, optimizing provincial energy planning. **Designed an AIoT-based irrigation system** with nRF52 & supercapacitors, reducing **water consumption in agricultural fields**. Created an AI-enhanced solar dryer system with Arduino, improving energy efficiency by 15-20% and reducing operational costs. Implemented a BLE Mesh network for real-time monitoring of banana plantations, ensuring low-latency, energy-efficient data transmission. Demonstrated leadership in AI research and technological innovation. Open to opportunities in AI & IoT with visa sponsorship. Open to remote opportunities.

CORE SKILLS

- **Programming Languages**: Python, MATLAB, R, C/C++, Java, Rust, Assembly, Scala.
- **AI & Machine Learning**: TensorFlow, PyTorch, Scikit-learn, Machine Learning, Deep Learning, Computer Vision, Reinforcement Learning.
- **Embedded Systems & IoT**: nRF52, ESP32, STM32, Raspberry Pi, Arduino, ARM Cortex, Atmel AVR, FreeRTOS, Zephyr, BLE, LoRa, MQTT, Zigbee.
- **Smart Energy & Power Systems**: Grid Optimization, Renewable Energy, AI for Smart Grids.
- **Cloud & Edge Computing**: AWS Greengrass, Azure IoT Edge, Docker, Kubernetes, Jenkins, MLflow, Edge AI deployments, Real-time data processing, Edge analytics for local processing.
- **Data Science & Visualization**: Power BI, Tableau, SQL/NoSQL, Hadoop, Spark.
- **Soft Skills**: Technical Leadership, Team Collaboration, Agile Methodologies, Critical Thinking.

LANGUAGES

Spanish (Native) | **English** (C1, progressing towards C2)

PROFESSIONAL EXPERIENCE

Embedded Systems, IoT, and Home Automation Specialist ILIOSTEC | *Sept 2024 – Jan 2025*

- **Designed an AI-powered solar dryer system**, improving energy efficiency by **15–20%** and reducing costs.
- Integrated **IoT sensors & real-time monitoring** for optimized power usage.
- Developed **microcontroller firmware** with Arduino for automation.

Embedded AI & IoT Engineer **(Remote Contract – France)** | *Sept 2024 – Present*

- **Developed a BLE Mesh Network with nRF52** for real-time monitoring of banana plantations, enabling efficient communication between distributed sensor nodes.
- **Optimized IoT communication** for **low-latency, energy-efficient performance**, ensuring stable connectivity.
- **Designed an AIoT-based irrigation system**, reducing **water consumption in plantations and electric showers**.
- **Implemented an innovative charging system using supercapacitors**, extending IoT device autonomy.
- **Collaborated with an international team**, integrating real-time sensor data with a mobile app.

Founder & Director, AI and Smart Grids Research Center *Feb 2024 – Present*

- **Established and lead** a research center focused on **AI-driven optimization for energy systems and Smart Grids**.
- **Developed advanced AI models** for **energy demand forecasting**, achieving a **0.012 kWh RMSE** and improving the **provincial energy planning**.
- **Directed a multidisciplinary team**, collaborating with academia and industry to drive innovation in **AIoT for sustainable energy solutions**.
- **Designed predictive analytics solutions** to enhance **energy distribution efficiency** and support **renewable energy integration**.

FEATURED PROJECTS

- **Smart Grid AI Optimization** – Developed an **AI-driven energy demand forecasting model** improving grid efficiency by **25%**. (*Python, LSTM*).
- **Edge AI for Agriculture** – Created an **AI-powered monitoring system** for precision farming using **nRF52 & BLE sensors**. (*nRF52, C/C++, Embedded Systems, TensorFlow Lite, Embedded ML*).
- **AI-Powered Wind Turbine Control** – Developed a **reinforcement learning-based system** to optimize wind energy production. (Python, TensorFlow Lite, Reinforcement Learning).
- **Hybrid Photovoltaic Energy Prediction** – Built an **LSTM-XGBoost hybrid model** achieving **RMSE of 0.016 kWh**, improving solar power predictions. (*Python, LSTM, XGBoost*).
  🔗 *GitHub & Portfolio: See Full Case Studies*

EDUCATION & CERTIFICATIONS

🎓 **BSc. Electrical Engineering** – *University of Oriente, 2022 (Graduated with Honors)*

🎓 **nRF52 & BLE IoT Certification** – Nordic Semiconductor