

# SAINEY DANSO

EMBEDDED SYSTEMS ENGINEER

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## Profile

A results-oriented Embedded Systems student with a strong background in electrical engineering, electronics, automation, renewable energy, and research works. With hands-on experience in solar system design, PV installations, battery charger algorithms, AI and ML model development and deployment. Skilled in both individual and collaborative project works, with a strong focus on innovation and problem-solving. Passionate about continuous learning and driving innovation in embedded systems and AI applications.

## Professional Experiences

### Intern, UM6P-CC, Morocco

- Minimal Jamming Detection in LoRaWAN using Machine Learning
- Developed a lightweight ML model to detect Reactive jamming in LoRaWAN Signals

Feb. — Aug. 2023



### Intern, EnergyVision, Morocco

- Designed a solar energy system and conducted market research for renewable energy solutions.
- Developed algorithms for solar system optimization and energy management.

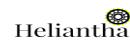
Aug. — Oct. 2023



### Intern, Heliantha, Morocco

- Studied and dimensioned photovoltaic (PV) systems and water pumping installations.
- Assisted in the integration of renewable energy systems into various industrial applications.

Jan. -- Jul. 2023



### Final Project Intern, LACEM, Morocco

- Implemented an MPPT algorithm and designed a solar battery charger using MATLAB.
- Focused on optimizing energy conversion and storage efficiency in solar systems.

Apr. — Jun. 2022



### Intern, NAWEC, Gambia

- Managed control operations and maintenance of heavy & light fuel engines.
- Gained hands-on experience with installation and troubleshooting in the energy sector

Jul. — Sept. 2019



## Projects

### Defect Detection on Candelabra Surfaces

- Developed an image processing-based solution for defect detection on candelabra surfaces.
- Utilized advanced machine vision techniques to detect and classify defects, optimizing inspection processes.

### Multifunctional Security System Design

- Contributed to the design and implementation of a multifunctional security system using **ESP32** and **PIC16F887** microcontrollers.
- Integrated **facial recognition**, **voice recognition**, and **decoding** features to enhance system security.
- Applied algorithms for real-time processing, improving system efficiency and user interaction.

### Solar System and Battery Charger Design

- Designed and optimized a **solar battery charger** with an MPPT algorithm to enhance energy conversion efficiency.
- Worked on creating a reliable and efficient system for off-grid applications

## Professional Education

### University of Abdelmalek Essaadi

Master's Student in Embedded Systems and Robotics, in Morocco (Msc).

2023 – 2025

### University of Moulay Slimane

Bachelor's Degree in Computer Electronics and Automation Engineering, in Morocco (Bsc).

2021 – 2022

### University of Moulay Slimane

Diploma in Electrical and Mechanical Engineering, in Morocco.

2018 – 2021

## Technical Skills

- Design & Simulation Tools:** Matlab, SolidWorks, PVsyst, Isis Proteus
- Programming Languages:** C, C++, Java, Python, MPLab, GNURadio
- Communication protocols:** UART, I2C, SPI, CAN
- Operating Systems:** RTOS, ROS, Embedded Linux, VHDL
- Microcontrollers:** PIC16F84/86, Arduino, ESP32, STM32
- Office Tools:** Microsoft PowerPoint, Excel, Word, Access,

## Personal Skills

- Strong team player and excellent collaborator
- Adaptability and quick to learn new concepts
- Self-motivated and results-driven
- Excellent communicator and active listener
- Capable of motivating and organizing teams effectively

## Languages

- English (fluent)
- French (Bilingual)
- Arabic (Basic)
- Darija (Basic)
- Mandinka (advance)

## Extra-Curricular Activities

- 2022-2023:** Tutor for GASAM summer classes
- 2021-2022:** Secretary of the GASAM Commission
- 2020-2021:** Vice President of CESAM Beni-Mellal
- 2019-2020:** Mentor of GE-GM for GASAM