

Nasrallah Rafi

Electrical Engineer

Dar Bouazza, Morocco

+212 6 71 11 43 77

nasrollahrafi@gmail.com

Portfolio: nasrollahrafi.github.io

LinkedIn: Nasrallah Rafi

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Profile

Electrical & Industrial Systems Control Engineer | Inventor. Driven by a passion for solving complex technical challenges in industrial automation and energy management. Currently finalizing my Capstone Project at Emove Vehicules, focusing on Digital Twin modeling for LFP batteries and BMS, as well as production optimization according to ISO 9001 standards. Available for full-time engineering opportunities starting June 2026.

Education

- 2023 – 2026 **Engineering Degree, ENSET**, Mohammedia
Major: Electrical Engineering and Industrial Systems Control (GECSI).
- 2022 – 2023 **Bachelor's Degree in Physical Sciences (Electronics)**, Faculty of Sciences Ben M'sik, Casablanca
- 2020 – 2022 **Associate Degree in Physics (DEUG)**, Faculty of Sciences Ben M'sik, Casablanca
- 2019 – 2020 **Baccalaureate Degree (Electrical Option)**, Technical High School, Mohammedia

Professional Experience

- Feb 2026 – Present **End-of-Studies Internship (Capstone - In Progress)**, Emove Vehicules
Topic: Modeling, stabilization, and control of an integrated industrial electric scooter production system subject to energetic and organizational disturbances
- Diagnosis of energetic and organizational disturbances impacting production.
 - Development of a production improvement plan and a State of Charge (SOC) control plan for batteries.
 - Development of quality control and testing procedures for LiFePO4 lithium cells compliant with ISO 9001 standards.
 - Improvement of the industrial bending process: operator training and punch design/study.
 - Digital Twin modeling of a Lithium Iron Phosphate (LFP) battery.
 - Study and modeling of advanced SOC estimation algorithms for Battery Management Systems (BMS).
- Jul 2025 – Sep 2025 **Engineering Internship, SMCV**, Mohammedia
- Programming and supervision of a plastic injection machine.
 - Design and integration of a mechanical arm to optimize the nut insertion process.
 - Comprehensive study, design, and automation of a hot nut insertion press.
- Jul 2024 – Aug 2024 **Technical Internship, ONEE**, Mohammedia
- Analysis of Siemens digital relays and development of testing procedures.

Patents

- Inventor **Automated system and process for welding and assembling corrugated web beam profiles**
Filed with OMPIC – Patent Number: 65133
Date of Issue: Nov 28, 2025

Technical Skills

- Expertise Industrial Automation & Supervision, Power Electronics & Electrical Grids, Embedded Systems & IoT, Modeling & Advanced Control.
- Software Siemens TIA Portal, PLCnext Engineer, MATLAB/Simulink, Caneco BT, ETAP, Proteus, PyTorch, Google Colab, Ansys (HFSS/Mechanical), Autodesk Inventor, AutoCAD, Fusion 360.
- Programming C/C++, Python, Ladder/SCL, VHDL.
- Languages **Arabic** (Native), **English** (C2 - Advanced), **French** (B2 - Intermediate).