Ait Ouahmane Abderrahmane

Hardware Design Engineer

Meknes, Morocco | +212 613335169

abdowahman57@gmail.com

Hardware Design Engineer with 2+ years of experience in high-speed and mixed-signal PCB development for industrial and embedded systems. Skilled in schematic capture, multilayer PCB layout, power delivery optimization, and FPGA-based system design. Adept at meeting EMC/SI requirements and collaborating across teams to deliver reliable, production-ready hardware.

# PROFESSIONAL EXPERIENCES

## Hardware Engineer | Silicone-Signal Technologies | Meknes, Morocco November 2023 – Present

*Hardware Design and Layout of Printed Circuit Boards.*

* Design and deliver multiple 2–6 layer mixed-signal PCBs for IoT Devices, from concept to layout, ensuring compliance with IPC-2221/2222 standards and company DFM/EMC guidelines.
* Create block diagrams and validate circuits with LTspice simulations.
* Select and qualify components to balance cost, reliability, and availability, reducing sourcing issues during production.
* Build and maintain IPC-compliant libraries, improving reuse and minimizing errors.
* PCB layouts using Altium Designer, defining stack-ups and manufacturer rules to ensure manufacturability and signal integrity.
* Coordinate part procurement and prototype assembly, including soldering and board bring-up.
* Validate designs using oscilloscopes and lab equipment, meeting performance specs.

## End of Studies Internship | Lear Corporation | Rabat, Morocco February– July 2023

*SWEET500 BCM Evaluation board with the new Microcontroller Aurix TC387*

* Analyzed RFQ schematics and block diagrams for the Renault–Nissan–Mitsubishi Alliance.
* Captured and refined schematics in line with automotive and company design guidelines.
* Performed worst-case condition analysis (WCCA) to ensure compliance with reliability standards.
* Designed PCB layouts in Xpedition, following automotive-grade EMC and DFM rules.

## End of Year Internship | Moussa-soft | Agadir, Morocco July– August 2022

*Development in embedded electronics*

* Developed a programmable logic controller (PLC) for industrial automation based on ATmega2560.
* Designed a PCB with multiple high-current I/Os, incorporating proper sizing, protection, and thermal considerations.
* Built a working prototype including PCB and enclosure, enabling functional demonstration.
* Programmed the controller and developed a mobile app (App Inventor) for system interaction.

# EDUCATION

## National School of Applied Sciences | Hassan I University | Morocco 2020 - 2023

*State Engineering Degree*

* Option: Aeronautics (Electronics and embedded systems)

## Higher School of Technology | Ibn Zohr University | Morocco 2018 - 2020

*Technical University degree (DUT)*

* Option: Electrical engineering

# TECHNICAL SKILLS

**Hardware Design**  : Analog/digital circuit design, Prototyping, Oscilloscopes, Multilayer PCB layout, IoT

**Protocols** : I2C, UART, SPI, CAN, LIN, Wi-Fi, BLE, MQTT

**Programming Languages** : Embedded C, C++, Python, VHDL

**Development Boards** : Raspberry Pi, STM32, ESP32, Arduino, Xilinx FPGAs

**Tools & Environments** : Altium, Xpedition, Kicad, LTspice, Matlab/Simulink, Vs Code, Git, Office.

# SOFT SKILLS

Report Writing | Team Collaboration | Knowledge Sharing | Problem Solving | Attention to Detail | Proactive | Efficient multitasking | Deadline-driven | Technical documentation

**Languages:** Arabic (Native), English (Professional), French (Conversational)

# CERTIFICATIONS

**Complete Electronics Hardware Design Course** : [https://www.udemy.com/certificate/UC-166d258c](https://www.udemy.com/certificate/UC-166d258c-f45c-4618-b255-f3a37050b1b1/?utm_campaign=email&utm_medium=email&utm_source=sendgrid.com)

**Signal Integrity Basics to Advanced & Simulations** : [https://www.udemy.com/certificate/UC-76672285](https://www.udemy.com/certificate/UC-76672285-9606-496a-bbc4-72eeff6fdcca/?utm_campaign=email&utm_medium=email&utm_source=sendgrid.com)

**LINKS**