AURÉLIEN GOUMAIN

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EDUCATION

Polytech Montpellier – MEng in Microelectronics and Automation (MEA)
Sep 2024 – Present
- Projects supervised by the school, including : design of a post-stroke actimetry watch: accelerometer programming, display module integration, soldering, and PCB design.
- Ultra-low power impedance measurement : front-end design for a DAC implemented on FPGA.
- Design and programming of a 6-axis robotic arm : Controlled 6 servo motors using an STM32 microcontroller (programmed in CubeIDE). Developed low-level drivers by directly manipulating registers for precise management of speed, torque, and closed-loop control. Implemented the control kinematics for the arm.
- I developed a machine learning algorithm in MATLAB capable of recognizing handwritten digits, which strengthened my understanding of neural networks and data processing.

Sep 2022 – Jun 2024
CUPGE – University Paul Sabatier, Toulouse

Sep 2019 – Jun 2022
Lycée Descartes, Montigny-le-Bretonneux (78)
Specialization: Mathematics, Physics & Chemistry

PROFESSIONAL EXPERIENCE

Assembly Line Worker – Pink Mobility
Jun 2024 – Jul 2024
- Worked on the electric scooter assembly line
- Managed stock and order preparation

Private Science Tutor
2022 – Present
- Taught science to middle and high school students, emphasizing confidence and methodical reasoning
- Developed strong communication and teaching skills

Entrepreneur – Brand Creation Project
2023
- Designed and launched a poster brand via a Shopify online store
- Managed design, printing, and supplier coordination
- Built and ran marketing campaigns on Google Ads, Facebook, TikTok, and Instagram
- Produced promotional videos and managed a professional social media account

TECHNICAL SKILLS

- **Programming :** C, Python, MATLAB
- **Embedded Systems :** STM32, FPGA (Quartus), ADC/DAC, SPI/I²C communication
- **Electronics :** Signal processing, impedance matching, analog filter design
- **Software & Tools :** KiCad, Cadence, scilab, Mathlab, Quartus, Linux, Eclipse, Excel
- **Languages :** French (native), English (B2), Spanish (A1)

INTERESTS

- Investment
- Entrepreneurship
- Personal development
- Philosophy
- Economics
- Politics
- Psychology
- Sports
- Aviation
- Space exploration
- Automotive engineering