



OUMNYA JABIL

5TH YEAR MECHATRONICS ENGINEERING STUDENT

PROFILE

Final-year Mechatronics Engineering student with a solid foundation in control systems, robotics, and industrial automation. Interested in a PFE internship that combines technical design, system optimization, and quality engineering within an Industry 4.0 context.

INTERSHIP HISTORY

PFA Internship at the Planned Maintenance Department, Leoni Wiring Systems

Jul 2025 - Aug 2025 Bouznika

Thermal Control System Optimization for Komax Alpha 355 Machines :

- Applied DMAIC and 8D problem-solving methods to identify and eliminate the root cause of ACS module overheating.
- Designed a sensor-based ventilation system, performed AMDEC analysis, and ensured ISO 9001-aligned implementation, improving machine reliability and production uptime.

EDUCATION

National School of Applied Sciences Tétouan 2020-Present

- **Engineering Cycle, 2nd Year** 2022-Present

Currently in 5th year of a 5-year engineering program. Core subjects are Embedded Systems, Control Systems, Electronics, Mechanical Design, Automation, Signal Processing.

- **Preparatory Cycle** 2020-2022

Intensive foundation in Mathematics, Physics, and Engineering Sciences.

ACADEMIC PROJECTS

Driver Drowsiness Detection System :

Developed an embedded safety system for detecting driver fatigue using sensors and Arduino. Focused on real-time monitoring and preventive safety in transportation applications.

Automatic Vehicle Air Conditioning Control – MATLAB/Simulink :

Designed and simulated a thermal regulation control system using MATLAB/Simulink following the V-cycle approach. Defined system specifications, modeled components, and validated control algorithms.

Automation of Pneumatic Stations – FESTO Systems :

Programmed and simulated three industrial stations (loading, handling, transport) using Siemens PLCs. Integrated sensors and actuators to reproduce real industrial automation cycles.

Automatic Coffee Dispenser – Moore State Machine (VHDL on FPGA) :

Modeled and implemented a sequential control system using VHDL on a BASYS-3 Artix-7 FPGA board. Designed logic based on Moore state machines, similar to industrial process controllers.

Servomotor Control (Proteus Simulation) :

Designed and simulated a servo control system using NE555 timer circuits in Proteus ISIS. Focused on PWM generation and feedback-based motion control.

Automatic Car Parking System – Arduino & Ultrasonic Sensors :

Developed an embedded automation project for vehicle parking management using ultrasonic sensors, Arduino, and servo motors. Implemented real-time distance measurement and automatic gate/slot control logic.

L A N G U A G E S :

English C2

French C2

Arabic Native Speaker

CONTACT

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TECHNICAL SKILLS

Industrial & Quality Engineering :

- Application of Six Sigma (DMAIC), PDCA, and 8D methodologies for process improvement and root-cause analysis.
- Knowledge of ISO 9001 for automotive quality assurance.
- Familiar with Lean Manufacturing, Kaizen, and Poka-Yoke practices.

Automation & Control Systems :

- PLC programming with Siemens STEP 7 and TIA Portal for industrial automation.
- Pneumatic and hydraulic systems automation using FESTO equipment.
- CNC programming (G-code) for automated machining processes.

Design & Modeling :

- 3D modeling and mechanical design using CATIA V5.
- COSIMIR for industrial robot simulation.

Electronics & Embedded Systems :

- Circuit design and simulation using Proteus (ISIS).
- Arduino prototyping and embedded control development.
- VHDL and Vivado for FPGA-based digital system design.

Simulation & Analysis :

- MATLAB / Simulink for control and dynamic system modeling.
- PSIM for power electronics and motor control simulation.
- FluidSIM for pneumatic and hydraulic system analysis.

Programming :

- C / C++, MATLAB, VHDL, G-code.

Personal Attributes :

- Creativity, teamwork, analytical thinking, and problem-solving mindset.