ENGINEERING APPRENTICE · ESTIA · MESEA (VINCI RAILWAYS)

# William Pool

## Industrial automation & IT/OT convergence


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NOTE 1

**12-week international internship**

30 Nov 2026
→ 26 Feb 2027

### 01 PROFILE

Engineering student at ESTIA with **four years of apprenticeship** on the OT and telecom systems of a 300 km high-speed line. I bring PLCs, robots and industrial networks together, and I am looking for a **12-week international internship in automation and commissioning**.

### 02 EXPERIENCE

**MESEA (VINCI Railways)** — LGV SEA Tours–Bordeaux high-speed line — Villognon, France

**Telecommunications Engineering Apprentice** — Sept. 2025 – present

- Maintain the telecom / OT backbone: **SDH/PDH**, **GSM-R**, industrial switches, Saia PLCs.
- Designed a **ring-closure architecture** for the SDH network.
- **Predictive maintenance** of fibre links from optical telemetry (Python).

**Telecommunications Technician** — 2024 – 2025

- **Rail-temperature monitoring** under live traffic: Raspberry Pi, MQTT, Grafana.
- Hosted and secured the monitoring stack on **Proxmox VE** (VLAN, firewall, VPN).

**Railway Signalling Technician** — 2022 – 2024

- Maintenance and **fault diagnosis** on safety-critical signalling equipment.

### 03 KEY PROJECTS

**Automated loading / unloading station** ↗ — IUT Bordeaux

- 3-axis arm on a Festo Industry 4.0 line, from specification to commissioning.
- **Two PLCs over Profinet** (ET200SP + S7-1214C I-Device), GEMMA modes, WinCC HMI.

TIA Portal · SCL · GRAFCET · GEMMA · WinCC · PLCSIM

**Proxmox training lab — crisis simulation** ↗ — MESEA

- A **production-like cluster for each technician**: 3 nested nodes + a backup server.
- Injected failures to fix, and a Python console that resets every lab in one command.

Proxmox VE · PBS · Corosync · SDN · Python

**Optoelectronic train positioning aid** ↗ — MESEA

- A track-side sensor tells the driver the train is in position, over a **LoRa link** to the cab.
- Built end to end: electronics, 3D-printed enclosures, **field validation**.

Raspberry Pi · LoRa · Python · Onshape

**KUKA palletising cell — digital twin** ↗ — Personal project

- Robot cell in the browser: inverse kinematics and an **editable KRL program**.

three.js · TypeScript · KRL

### 04 EDUCATION

**ESTIA** — 2025 – now
Engineering degree, apprenticeship · robotics & embedded systems

**BUT GEII** — 2024 – 2025
Electrical engineering & industrial computing

**BTS Industrial Maintenance** — 2022 – 2024

**Bac Pro MELEC** — 2020 – 2022

**Proxmox VE Administration** — 2025
Certification

### 05 SKILLS

**Automation**
TIA Portal, SCL / LAD, GRAFCET, GEMMA, WinCC, PLCSIM, KUKA KRL

**Networks**
SDH/PDH, GSM-R, industrial Ethernet, VLAN, VPN

**IoT & embedded**
Raspberry Pi, ESP32, LoRa, MQTT

**Software**
Python, Linux, Docker, Proxmox, Grafana

**CAD**
Onshape, 3D printing

### 06 LANGUAGES & HOBBIES

French (native) · English (bilingual)

Robotics · cybersecurity · Brazilian Jiu-Jitsu

Projects in detail and the live robot cell
william-pool.com