

Paul THOMAS

+33 6 52 96 55 58 | pthomas@cesi.fr | linkedin.com/in/paul-thomas-cs | github.com/plrpower | pthomas.fr

EDUCATION

CESI Graduate School of Engineering

Master of Science in Computer Science & Engineering (Co-op Track)

Strasbourg, France

Sep. 2023 – Oct. 2028

- **Focus:** Artificial Intelligence, Machine Learning, Embedded Systems & Distributed Computing.

Lycée Marie Curie

French Baccalaureate with Honors (Mathematics & Computer Science)

Strasbourg, France

June 2023

EXPERIENCE

Apprentice Research Engineer

LINEACT Research Laboratory (UR 7527)

Oct. 2025 – Oct. 2028

Strasbourg, France

- Designing and benchmarking decentralized machine learning pipelines deployed on heterogeneous edge clusters.

R&D Intern – Federated Learning

LINEACT Research Laboratory (UR 7527)

Apr. 2025 – June 2025

Strasbourg, France

- Prototyped a distributed ML architecture to evaluate decentralized model training on resource-constrained hardware.

Founder & Full-Stack Developer

Studio Osalys

2021 – 2024

Strasbourg, France

- Delivered 15+ full-stack web applications, SaaS platforms, and REST APIs using Vue, Node.js, and SQL.

Early Internships

2019 – 2021

- **Pixacare** (AI MedTech, 2021) | **Elixir Health** (AI Health, 2021) | **neverMind** (Embedded Systems, 2019)

PROJECTS

Edge Federated Learning Platform | *Python, Tensorflow, Docker Swarm, MQTT, WebSockets*

2025 – 2026

- Engineered a distributed Federated Learning platform across a heterogeneous 20-node cluster (Raspberry Pi & Jetson).
- Integrated state-of-the-art FL algorithms into an asynchronous WebSocket and MQTT pipeline.
- Benchmarked edge model convergence on heterogeneous time-series streams under network constraints.

Axiom Chess: Spatial Computing & HCI Ecosystem | *PyTorch, Computer Vision, OpenCV, YOLO*

2025 – 2026

- Axiom Vision: Real-time chessboard pose detection and piece tracking using OpenCV and deep learning pipelines.
- Axiom Light: Augmented reality projection overlay mapping dynamic moves directly onto the physical board.
- Axiom Engine: Custom Alpha-Beta search engine integrated with a Deep Neural Network for static board evaluation.

Variational Quantum Classifiers (QML) | *PennyLane, PyTorch, Qiskit*

2026

- Engineered hybrid quantum-classical networks (VQC) and benchmarked noise robustness on complex data.

Custom Search Robot | *ROS 2, SLAM, Autonomous Navigation, YOLO, Embedded*

2025

- Built a mobile robot using SLAM, YOLO, and autonomous navigation to map and locate targets in GPS-denied spaces.

Vehicle Route & Fleet Optimization | *Python, Graph Theory, Combinatorics, Pandas*

2025

- Implemented operations research algorithms solving Vehicle Routing Problems (VRP) with complex time-window constraints.

Resilient Embedded Weather Station | *C++, ESP32 / Arduino, RTOS, Sensors*

2024

- Engineered an autonomous low-power embedded sensor payload for environmental telemetry and hazard monitoring.

HONORS & CERTIFICATIONS

3rd Prize & Special Award (OiEau): Aquathon (48h hackathon, regenerative hydrology mapping platform) - 2025

Top Scorer: AXA Challenge “Best Computer Science Student in France” (Cyber, AI/ML, Cloud & Dev) – 2025

TOEIC Listening & Reading: 875/990 (Advanced Professional English Proficiency) – 2025

TECHNICAL SKILLS

Programming Languages: Python, C/C++, C#, TypeScript, JavaScript, SQL, Java, PHP

ML/AI: PyTorch, TensorFlow, Hugging Face, Flower, Transformers/LLMs, Computer Vision (OpenCV), PennyLane, Qiskit

Systems & Embedded: Linux IPC, RTOS, ESP32, Arduino, Raspberry Pi, ROS/ROS2, MQTT, Sensor Fusion, Gazebo

Tools & Full-Stack: Docker, Docker Swarm, Git, CI/CD, Jupyter Notebook, React, Vue, Node.js, FastAPI, PostgreSQL

Spoken Languages: French (Native), English (Fluent / TOEIC 875), German (Working proficiency)