Saturnin WANONKOU

Software Engineer · Backend Specialist & Embedded Systems

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PROFILE

Final-year engineer specializing in embedded systems and backend architecture. Master both low-level hardware optimization and high-level distributed systems. 3+ years production experience with proven leadership and mentoring abilities. Autonomous, thrives under pressure, obsessed with meaningful technical impact. Seeking roles bridging hardware and software domains. **Available December 2026**.

EDUCATION

Paris Polytechnic Institute — *Orsay*
Master E3A – Embedded Systems — *2025 – 2026*
- Options : RTOS, Embedded Linux / Yocto, Embedded AI, Critical Systems

Polytech Paris-Saclay — *Orsay*
Engineering Degree – Electronics & Embedded Systems — *2023 – 2026*
- GPA: **17.15/20** (85.75 %) – Top of class
- Specializations : HPC/GPU Computing, FPGA Design, Hardware Acceleration, Real-Time Systems, Computer Vision

Polytech Orléans — *Orléans*
Integrated Prep – Mathematics & Physics — *2021 – 2023*
- Average **16.99/20** (85%)

SKILLS

Languages	C, C++, Python, PHP, JavaScript, Bash, VHDL
Embedded	STM32/ARM, FreeRTOS, Yocto, CAN/I2C/SPI/UART
Hardware	FPGA (Intel), GPU/HPC, TensorRT, Jetson Orin
AI/ML	Model Quantization, Pruning, Memory Optimization
Backend	Node.js, REST APIs, AWS (ECS/EKS), GCP
DevOps	Docker, Kubernetes, Git, CI/CD, Jira, Agile

LANGUAGES

French – Native speaker · Voltaire Cert. 833
English – Professional (international internship, Netherlands)

INTERESTS

Football · Six months competitive play
Reading · Crime thrillers

EXPERIENCE

MICROEJ — *Nantes, France*
Embedded Software Engineer Intern — *March 2026 – Sept. 2026*
- Led feasibility assessment and integration of AI model deployment on microcontrollers
- Optimized inference performance under strict RAM and power consumption constraints

MBD Lab – TU Eindhoven — *Netherlands*
Embedded Software Engineer Intern — *May – Aug. 2025*
- Architected embedded software for industrial production machinery using Model-Based Design methodology
- Ensured compliance with formal mathematical specifications, reducing implementation time significantly
- Enhanced cross-platform portability of industrial control systems

Thomzcapper — *Arras, France*
Freelance Embedded Systems Engineer — *Apr. – May 2025*
- Integrated SportIdent card readers through custom USB serial communication drivers
- Reverse-engineered and analyzed proprietary timing protocols for competitive sports systems

Nelixair — *Toulon, France*
Lead Backend Developer — *Jan. 2022 – Jan. 2026*
- Led technical direction for team of 3–5 engineers; designed and maintained CI/CD pipelines
- Drove codebase modernization through refactoring and rigorous code reviews
- Bridged backend and embedded systems domains across company architecture

IMX France — *Pantin, France*
Freelance Backend Developer — *Sept. 2023 – Present*
- Modernized legacy software stack, resolved critical production issues, and ensured system reliability
- Provided technical guidance to marketing team on campaign analytics and optimization

Maires et Citoyens — *Nanterre, France*
Freelance Backend Developer — *Nov. 2024 – Present*
- Maintained and enhanced production applications; delivered new features and bug fixes
- Built and deployed REST APIs; integrated third-party services for expanded functionality

PROJECTS

ML & Deep Learning on GPU — *Polytech, Orsay*
C++, TensorRT, Nvidia Jetson Orin AGX — *Nov. 2025 – Feb. 2026*
- Deployed and optimized deep learning models on edge devices with model quantization and pruning
- Built GDPR-compliant vehicle plate recognition and tracking system for real-time video analysis

PolyFlex – School Management Platform — *Orsay*
Project Lead – poly-flex.fr — *Dec. 2024 – Present*
- Designed and built end-to-end schedule and attendance management system for educational institutions
- Integrated intelligent recommendation engine and MCP server for AI-powered features
- Optimized frontend performance and refined UX through data-driven design iterations

CuteCar Cup – 1st Innovation Prize — *Polytech, Orsay*
VHDL, FPGA Cyclone IV — *Dec. 2023 – Jan. 2024*
- Implemented hardware-based PID control algorithms in VHDL for autonomous line-following on FPGA
- Achieved best-in-competition performance optimization and recognized for technical innovation