Géraud BERTRAND

Work-study software engineer · AI and signal processing

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PROFILE

Engineering student at ESILV (Software and AI track) and full-stack developer on a work-study contract, working in C#/.NET. I build end-to-end pipelines, from sensor data to business software, with a strong interest in biomedical data and brain-computer interfaces.

Looking for: a software development internship (neurotechnology, medical devices), 9 to 12 weeks, summer 2027, abroad.

TECHNICAL SKILLS

Languages	C#, Python, C++, SQL, JavaScript, Java
Software	.NET, ASP.NET Core, Blazor, React, API REST, QuestPDF
Data and AI	LightGBM, convolutional neural networks (CNN), OpenCV, YOLOv8, OCR, FAISS
Signal, embedded	EMG acquisition (Myoware sensors), ESP, embedded C++; LDA and SVM (PI², planned)
Languages	French (native), English (B2), German (A2), Russian (basics)

WORK EXPERIENCE

Full-stack developer, work-study — XLConcept — Sept 2025 – present

- Sole developer of an internal B2B bid-production tool, from back end to front end (C#, .NET, Blazor).
- Contract and bid management per client; generation of tender specifications and response documents as PDF (QuestPDF).
- Integration of a Nextcloud document management system and an external tender portal: candidate responses, round tracking, signature.

Developer, internship then fixed-term contract — Pétrarque — Apr 2023 – Jan 2024

- Design of a complete home-automation system on Jeedom (automation, dashboards).
- Development of a website and REST API collecting IoT sensor data.

Full-stack developer, work-study — XLConcept Corporation — Oct 2021 – Sept 2022

- Web platform for workplace cleaning management (C#, .NET, SQL Server): business API and back end.

PROJECTS

PI² — EMG-controlled robotic arm (school team project) — Ongoing

- In charge of all the software: signal acquisition (Myoware sensors), data cleaning, ESP-to-NUC transmission.
- CNN inference on the NUC and PiPER arm control; embedded C++ firmware. Scoping phase, no measured results yet.

Bobathon ESILV — Parkinson's data prediction (IBM/Probabl Kaggle, team of 3)

- LightGBM model on biomedical data: visit-level RMSE of 3.2 (lower is better).
- 80th of 294 participants on the official private leaderboard.

Card Center — TCG card detection by computer vision (personal project) — Ongoing

- Working React interface; detection in progress (computer vision, OCR, FAISS vector search), C++ mobile port planned.

HitMap Aggregator — Live Twitch heatmap extension (personal project)

- C#/.NET 10 back end (ASP.NET Core, SSE) aggregating the areas viewers look at; 58 xUnit tests; simulated 50,000-viewer benchmark (NBomber), 44 of 44 checks passed.

STUDENT ASSOCIATION

Digital lead — Créalab, ESILV's technical student association — 2026 (member in 2025)

- Association management site in Blazor: machines, inventory, trainings, events, members and access rights, print request tickets. In internal testing.

EDUCATION

Engineering degree, Software Engineering and AI — ESILV, Nantes — 2025 – 2028

Professional bachelor's, Video Game Careers — IUT Sorbonne Paris Nord — 2022 – 2023

Professional bachelor's, Web and Mobile Development (work-study) — IUT Sorbonne Paris Nord — 2021 – 2022

Associate degree (DUT), Computer Science — IUT Sorbonne Paris Nord — 2019 – 2021