

Sébastien Galvagno

Software Engineer

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Summary

Senior Software Engineer with 20+ years of experience in low-level systems and full-stack development. Strong expertise in C, Python, and cross-platform infrastructure. Experienced in debugging, DevOps workflows, and modernization of legacy code. Adept at collaborating across design and product, supporting open source tooling and automation.

Skills

Languages: C, C++, Python, JavaScript/TypeScript, Java, Swift, Obj-C

Frameworks: Node.js, React/Next.js, Express.js, FastAPI, Cordova, Angular, Ionic

Databases: MongoDB, MySQL, SQLite, PostgreSQL

Tools: Docker, GitHub Actions, CI/CD, Trello, Shell

scripting

OS: Linux, macOS, Windows, AIX, Solaris, HP-UX, FreeBSD

Other: Image processing, Bluetooth protocols, ERP maintenance

Strengths: Cross-platform portability, CI/CD automation, system debugging, adaptability, team work.

Experience

Software Engineer & DevOps – Sorbonne Université / LOV

Jun 2023 – Present

- Development of the next-gen **ZooProcess** platform within FUTURE-Obs & iMagine projects.
- Full-stack web app: Node.js/Express backend (OpenAPI, Prisma, MongoDB) + React/Next.js frontend.
- Python (FastAPI, OpenCV, scikit-image) for image processing & AI integration.
- Pipelines for Cytosense data ingestion into Ecotaxa (cytosense_pipeline, cyz2json).
- Deployment of EcotaxoGuide with Docker.
- Server admin: Dell iDrac, NFS, Samba, RAID/LVM, Bacula backups, NGINX + TLS certs, Zabbix.

Freelance Engineer – Clavis (Antibes)

Jan 2025

- Modified proprietary ERP (WinDev) to handle new client analysis file formats.
- Built Python automation for order/invoice consistency.
- Website maintenance: <https://clavis.fr>.

Freelance Engineer – Azoth Systems

2019–2021

- Built Cordova plugin for mobile integration. (javascript, Swift, Java, Bluetooth)
- Extended libDiveComputer (C) for new profile features, optimized retrieval.
- Backend upgrades: Node.js, MongoDB.
- Frontend: Vanilla JS
- MATLAB-to-C refactoring for mobile integration.

Freelance & Volunteer Projects

2015–2020

- Mobile apps for **Un Océan de Vie** (Ionic/Angular/TypeScript, CouchDB/PouchDB).
- Festival apps for **Déantibulations** (Ionic, Angular, Python scraping).
- iOS app for **DORIS FFESSM** (Obj-C/Swift, SQLite, Firebase).

Software Engineer – ASG Technologies

2005–2017

- Developed/maintained multi-OS agents (C, C++, shell, XML).
- Unix team guru; responsible for inter-machine comm (sockets, HTTP).
- Built in-house CI/CD for distributed builds (CVS, make, Bash, batch, SSH).
- Inventory systems (hardware/software, virtualization detection, embedded SQLite).

Sole Developer – Reliability Plus Inc. (Remote, USA)

2011–2016

- Maintained monitoring software across Linux (x86, PPC, s390x), AIX, Solaris, HP-UX, Windows, macOS.
- Implemented installers (WiX), agent code in C/C++/Shell.
- Built SPA dashboard (PHP, jQuery Mobile).

Earlier Experience

2000–2004

- Unix Team Lead & Developer – Swan (Vision64, C++, Oracle, multi-OS).
- Research Intern – IRIT Toulouse (gesture tracking, C++, image processing).

- Navy SITEC – ERP maintenance, financial planning tools (C, VB, Sybase).

Education

DEA (Master 2) – Computer Science (Image & Language), Univ. Paul Sabatier, Toulouse 1998–1999

Master's Degree – Computer Science, Univ. Toulon Var 1995–1996

French Baccalaureate – Mathematics & Engineering Sciences 1992

Additional

- Passionate underwater photographer (macro & ambiance).
- Volunteer developer for NGOs and cultural associations.
- Mentor in Linux, debugging, and scripting for junior engineers.