SÉBASTIEN BILLION

Senior Software Engineer – Python · Backend · Cloud · Data Platform



Details

sebastien.billion@gmail.com

Driving licence: yes

Links

LinkedIn

GitHub

StackOverflow

Skills

- **Cloud & Infrastructure:** AWS, GCP, Docker, Kubernetes, Helm, ArgoCD, Terraform / OpenTofu, Ansible, Cloudflare, Nginx, Linux (Debian, Ubuntu, CentOS, Fedora)
- **Languages:** Python, Bash / Shell, SQL, Kotlin, PHP, JavaScript, AngularJS, Vue.js, jQuery
- **Frameworks & APIs:** FastAPI, Django, Flask, Django REST Framework, aiohttp, REST APIs, Microservices, OpenAPI / Swagger
- **Data:** PostgreSQL, MySQL, MariaDB, Oracle, Microsoft SQL Server, SQLAlchemy, SQLModel, raw SQL, PL/SQL, MongoDB, Elasticsearch, Redis, Kafka, Pandas, NumPy
- **CI/CD & Observability:** GitHub Actions, CircleCI, Travis CI, Jenkins, Grafana, OpenTelemetry, Datadog, Sentry
- **Testing:** pytest (unit & integration), TDD, Selenium, Playwright

Professional Summary

Senior software engineer with 14+ years designing and delivering scalable backend systems, APIs and microservices across product and platform environments. Strong Python and shell automation, Infrastructure as Code, and hands-on AWS, GCP and Kubernetes operations. Comfortable across the stack – software development, CI/CD, observability and platform governance – with a strong engineering mindset (version control, code reviews, testing, operational excellence). Known for translating complex business needs into reliable solutions and leading technical improvements within long-term product teams. Daily user of generative AI across coding, review and automation; also self-hosted a Qwen3.8 LLM on SaladCloud.

Employment History

Freelance – Senior Backend Python Developer, Back Market (full remote)

Jan 2026 - Sep 2026

- Contributed to a cross-functional squad to design and deliver features in a microservices environment following sprint planning.
- Designed and launched a new FastAPI microservice and integrated it with existing platform components to accelerate feature delivery.
- Led the migration of team monitoring from Datadog to Grafana and OpenTelemetry, built observability dashboards, and refined alerts to reduce noise and improve SLA visibility for on-call teams.
- Owned dependency management and coordinated safe upgrades across services to reduce runtime incidents and technical debt.

Technologies: Python, FastAPI, Microservices, Grafana, OpenTelemetry, Datadog, Kubernetes, GCP, Docker, RabbitMQ, Redis, API gateway, Load balancer, Jira, Confluence.

Career Break – Offensive Security Training

Nov 2024 - Dec 2025

- Pursued OSCP certification, enhancing skills in offensive cybersecurity techniques (OffSec, Hack The Box labs).
- Explored web development, AI and Python backend, staying up to date through Udemy, DataCamp and Real Python.
- Committed to deepening understanding of web and API security.

Software Engineer, UKG (full remote)

Apr 2020 - Nov 2024

UKG is a leader in HR software. Backend Python developer in the e-signature team:

- Enhanced integration of e-signature providers, improving user experience in the Document Manager application (Django).
- Implemented new features, fixed bugs, and improved security in legacy Python applications and PostgreSQL schemas.
- Migrated Elasticsearch from version 1 to 8 and adapted the code for e-signature.
- Developed asynchronous REST APIs in Python with aiohttp, managing multiple scopes based on JWT tokens; migrated services to FastAPI.
- Developed a Kotlin application within an event-driven architecture based on Apache Kafka with MongoDB.
- Deployed on GCP with Kubernetes; continuous integration with Travis CI, CircleCI and GitHub Actions.
- Applied best practices: PEP 8, docstrings, pytest, and a structured Git workflow (features, bugfixes, hotfixes) in Scrum teams.

- **Practices & tooling:** Git, code reviews, dependency management (pip, pipenv, poetry, uv), Fabric, secure development
- **AI in daily practice:** generative AI for coding, code review, testing and automation; self-hosted Qwen3.8 (OpenAI-compatible API) deployed on SaladCloud, used occasionally
- **Snowflake:** administration fundamentals — security model, RBAC, privileges, resource hierarchy, object lifecycle (self-study)

Languages

- French (native)
- English (fluent)

Technologies: Python, Django, FastAPI, aiohttp, PostgreSQL, Elasticsearch, JWT, Kubernetes, Docker, GCP, Travis CI, CircleCI, GitHub Actions, Kafka, MongoDB, Kotlin, Jenkins, RabbitMQ, Redis, Jira, Confluence.

Lead Software Engineer, Python / DevOps, Jaccede

Jan 2015 – Apr 2020

Jaccede is a non-profit collaborative platform helping people with reduced mobility find accessible places; all content must be cleaned and secured.

- Led the redesign of an outdated platform, migrating to AWS with customized solutions, improving stability and performance.
- Developed a streamlined REST API using Flask, enhancing data consistency and user experience.
- Used Google Places APIs to limit duplicate places in the database.
- Implemented gamification to encourage user contributions.
- Managed full-stack development of a new website in AngularJS, documenting with OpenAPI and Swagger.
- Used Pandas and NumPy to integrate data from partners and open data sources.
- Led other developers and external resources on mobile and frontend.

Technologies: AWS, Flask, REST APIs, AngularJS, OpenAPI, Swagger, Google Places API, Pandas, NumPy, Vue.js, Kubernetes, Docker, Ansible, RabbitMQ, Redis, Trello (Kanban).

Software Developer, Web & Mobile, Treshna Enterprise Ltd (Christchurch)

Jul 2013 – Dec 2014

- Developed web applications in PHP and Python (Magento, Drupal, WordPress, Django, Flask).
- Developed native mobile applications for Android and iOS.
- Configured and managed server environments on Debian.
- Migrated databases from MySQL to PostgreSQL.
- Applied agile practices with strong coding standards and documentation.

Technologies: PHP, Python, Magento, Drupal, WordPress, Django, Flask, Android, iOS, Debian, MySQL, PostgreSQL.

Software Engineer, CGI (Grenoble)

May 2012 – Oct 2012

- Developed and modified PL/SQL stored procedures for database management.
- Created Python scripts on Debian to synchronize GPS data with PostgreSQL databases.
- Managed ticketing systems to resolve client issues efficiently.

Technologies: PL/SQL, Python, Debian, PostgreSQL, GPS, pytest.

Independent Software Engineer, Freelance / Multiple Clients

Mar 2010 – Feb 2023

Delivered web, mobile and backend projects for Productivix, Nitroserv, Gabon Sprint Auto, 3VOIE, Artaban, Vitameet, Treshna Enterprise, Foodstack, Unikaya and Somfy.

- Built Django, Flask, FastAPI and PHP applications, including APIs, back-office tools and payment integrations.
- Developed Android and iOS applications and responsive web front ends.
- Managed database migrations, server setup, deployment and maintenance across client environments.

Technologies: Django, Flask, FastAPI, PHP, Android, iOS, PostgreSQL, MySQL, MariaDB, MongoDB, Fabric, OVH, Mercanet, PayPal integration, Django REST Framework, Vue.js, JavaScript, jQuery, Trello.

Projects

Interview Challenger — Python/FastAPI platform with IaC & GitOps (open source, personal)

2025 – Present

- Built a Python 3.14 **uv workspace** (6 packages) that turns a job-offer URL into an **LLM-generated** static site and auto-scored quizzes, exposing a **FastAPI** service with **SSE** streaming and object storage (boto3 / S3-compatible).
- Designed and operate the platform's **Infrastructure as Code with Terraform / OpenTofu**: reusable modules (private network, app + dedicated PostgreSQL servers, firewalls), remote state on R2 (S3 backend), Cloudflare DNS and edge.
- Automate provisioning and configuration end-to-end with **Ansible** and Docker Compose, driven by a **CI/CD release flow** (SHA-tagged images, stacked deploy PRs, manual approval gate for production).
- Built a **Kubernetes / GitOps** deployment path (ArgoCD ApplicationSet + per-environment Helm values) kept ready for scale-out.

- Quality gates: pytest (unit/integration/functional), ruff, mypy, bandit, pre-commit; OpenTelemetry and Sentry; deployed via GitHub Actions and Cloudflare Pages.

Technologies: Python 3.14, FastAPI, SSE, uv, Terraform / OpenTofu, Ansible, Docker, Kubernetes, Helm, ArgoCD, GitHub Actions, Cloudflare, Hetzner, PostgreSQL, OpenTelemetry, Sentry, pytest, ruff, mypy.

Medical Appointment — Full-stack booking system with GitOps (personal)

2026

- Built a medical appointment booking system with **FastAPI** and **PostgreSQL**, plus a **React** front end.
- Provisioned and deployed it through a dedicated **GitOps configuration repo** (ArgoCD + Helm charts) for automated, declarative delivery.

Technologies: Python, FastAPI, PostgreSQL, React, ArgoCD, Helm, Kubernetes.

Strata Salad — Self-hosted LLM on GPU cloud (personal)

2026

- Shell-based automation to deploy a self-hosted **Qwen3.8** LLM (OpenAI-compatible API) on SaladCloud **RTX 3090** container groups — build/push/deploy CLI, container init scripts, GitHub Actions image build.

Technologies: Shell, Docker, GitHub Actions, Cloud container groups, Linux.

Odoo API Connector (personal)

2026

- FastAPI connector integrating with the Odoo ERP API.

Technologies: Python, FastAPI, REST APIs.

Internships

Software Engineer, ST Microelectronics (Grenoble)

Jan 2012 – Apr 2012

- Optimized the inlining phase during compilation under GCC.
- Injected generated inlining sequences using Python, analyzing results.
- Evaluated performance versus size ratios to identify optimal configurations.

Technologies: GCC, Python, Compilation Optimization, Linux, Debian, C.

Software Developer, PHP, Symetrix (Grenoble)

Mar 2009 – Oct 2009

- Refactored CourseLiner's admin interface for V3 using Ajax and ExtJS.
- Implemented a file upload and SCORM integration module for Moodle.
- Conducted code reviews to ensure adherence to best practices.

Technologies: PHP, Ajax, ExtJS, Moodle, SCORM.

Software Mobile Developer, Asterop (Grenoble)

Jul 2011 – Nov 2011

- Conducted cross-analysis of development constraints for iPad/iPhone, Android and Windows Phone 7.
- Developed mobile applications using native and hybrid frameworks.

Technologies: iPad/iPhone, Android, Windows Phone 7, Mobile Development.

Education

- **SUPINFO** (École supérieure en informatique) — Bachelor of Science with Honours, Sept 2007 – Oct 2012.
- **Baccalauréat Scientifique**, Lycée Albert Triboulet, 2006 (private candidate).

Courses

- **PEN-200**, OffSec, Jan 2025 – Jan 2026.