

Simone Cosci

Senior Freelance Backend Engineer · DevOps · AI Integration & Agent Orchestration

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Italian national, resident in Spain | Italian (native), Spanish (B1), English (B1)

PROFILE

Backend and DevOps engineer with 30+ years of hands-on software delivery, the last six spent building a horizontal Business Intelligence / Data Integration platform and the CI/CD machinery that ships it.

Since 2023 my work has centred on putting **LLMs into production systems**: GPT-based Decision Support Systems in healthcare, replenishment optimisation in fashion retail, and MCP servers that expose business domains to AI agents as governed, auditable tools. I approach AI integration as an engineering problem — schemas, tool boundaries, auth, evaluation, cost and failure modes — not as a demo.

I also work *with* agents daily: spec-driven agentic development (Claude Code, MCP, agent skills, semantic-code tooling) wired into CI so that AI-generated code passes the same lint, static-analysis and test gates as anything else.

What I'm hired for: designing and shipping AI-integrated features inside existing PHP/Python/JS products, building MCP servers and tool layers, and getting the whole thing through a repeatable CI/CD pipeline onto real infrastructure.

CORE SKILLS

AI integration	OpenAI / GPT-based models, Model Context Protocol (MCP) servers & clients, tool/function calling, RAG patterns, prompt & context engineering, OAuth-secured agent access (Passport / Sanctum)
Agentic development	Claude Code, agent skills, AGENTS.md / CLAUDE.md conventions, spec-driven “vibe coding” with review & test gates, semantic code navigation (Serena), multi-agent task decomposition
Backend	PHP 8.x (Laravel 10–13, plus low-level/no-framework), Python (Apache Airflow plugins, hooks, operators), C#, Node.js
Frontend	Angular, Vue 3 + TypeScript, Inertia.js, Tailwind CSS, KendoUI, vanilla JS
CI/CD	Jenkins (Groovy pipelines), GitLab CI, GitHub Actions, Bash, custom CI/CD platforms (see below)
Containers & infra	Docker, Docker Compose, Docker Swarm, Kubernetes / OKD / OpenShift (arbitrary-UID hardening), Harbor & Docker Hub registries, OVH API, Nginx, supervisord, Let's Encrypt automation
Data	PostgreSQL, MySQL/MariaDB, Oracle, SQL Server, DB2, SQLite; ETL design; S3 / HDFS / SFTP / FTP connectors
Practice	TDD (Pest, PHPUnit), SOLID, static analysis (PHPStan/Larastan), Agile, technical guidelines authoring, mentoring

SELECTED PROJECTS

Biglins — open-source invoicing platform with a native MCP server (2026)

github.com/simonecosci/biglins · MIT · Laravel 13 / PHP 8.3 · Vue 3 + TypeScript · Docker · NativePHP

Full invoicing and estimates application for freelancers, built and released solo in the open.

- MCP server exposing 8 domain tools** (customers, estimates, invoices, email delivery) so AI agents can operate the business domain directly — with three transports: local stdio for the desktop build, HTTP + Sanctum bearer token for Docker deployments, and **Laravel Passport as an OAuth2 authorization server with dynamic client registration** for clients that only speak OAuth (Claude Desktop).
- GitHub Actions pipelines**: a test workflow (Pest, Pint, Larastan, ESLint, Prettier, vue-tsc) and a tag-triggered docker-publish workflow producing semver-tagged images on Docker Hub.
- Deployment matrix**: Docker Compose (PHP-FPM + nginx + queue worker under supervisord), rootless / arbitrary-UID images that run unmodified under OpenShift's restricted SCC, TLS modes for self-signed / Certbot / bring-your-own certificates, plus desktop builds for Windows, macOS and Linux via NativePHP.
- Developed with an agent-assisted workflow — feature specs, contribution conventions in AGENTS.md, and a single `composer ci`: check quality gate that both humans and agents must pass. 264 commits, full test suite, security policy and code of conduct in place.

AI features in the KPlatform / DataLife product suite (2023 – present)

Integration of GPT-based engines into a production BI & data platform used in regulated sectors:

- Decision Support System for healthcare** — LLM-assisted clinical decision support layered on existing datasets and dashboards (millegpg.it, meditutor.it).
- Replenishment optimisation for fashion retail** — AI-driven stock and reassortment suggestions on top of the ETL/BI pipeline.
- Product lines: data-next, data-brain, data-stock, data-pilot, data-journey (datalife.it).

CoreRelease (admink-release) — internal CI platform

PHP 8 / Laravel. Web console where developers define a “project” as a complete runnable environment: version, GitLab repository, Jenkins pipeline URL, environment variables, the Docker Compose service fragment (webserver, fpm, queue, websocket, scheduler) and the bootstrap Bash script. Triggering a release or a re-buildable SNAPSHOT enqueues a job that drives Jenkins over its API; Jenkins checks out the tag or branch, runs the Jenkinsfile from `cicd/`, builds from `docker/Dockerfile` and pushes the versioned image to the OVH Harbor registry. A queue worker polls the Jenkins API and streams live build progress to the UI over WebSocket.

CoreDeploy (admink-deploy) — internal CD platform

PHP 8 / Laravel. Delivery teams install and update application stacks on remote hosts from a web interface: SSH provisioning (installs Docker if absent), upload of `docker-compose.yml`, launcher script and layered `.env` / `.env.<project_id>` files, and arbitrary remote command execution. Also monitors HA nodes and promotes REPLICA to MASTER on failure, switching OVH Block Storage volumes between instances via the OVH API to keep data consistent. Generated artefacts target Docker, Compose, Swarm, Kubernetes, OKD and OpenShift. A companion **C# desktop client** deploys KPlatform behind VPNs and on-premises.

WMS — “Whatever Management System”

github.com/simonecosci/wms · Laravel / KendoUI. Visual relational entity mapper: a no-code application builder capable of generating parts of itself.

PROFESSIONAL EXPERIENCE

Freelance — Backend Developer & DevOps · AI Integration

Mar 2024 – present · Santa Cruz de Tenerife, Spain (full remote)

Independent contractor for **Genomedics** and **DataLife**, plus own products.

- Own the CI/CD estate for a horizontal BI / Data Visualization platform extended with Data Integration (Apache Airflow API) and AI-powered Decision Support modules.
- Design and maintain Jenkins/Groovy pipelines, GitLab and GitHub Actions workflows, Docker Compose topologies and registry publishing (Harbor on OVH).
- Build Airflow plugins, hooks and operators in Python; Laravel services and REST APIs in PHP; Angular front-ends.
- Integrate LLM engines into product features, define the tool/prompt boundary and the review process for AI-assisted contributions.
- Maintain WordPress client sites on a self-managed Ubuntu VPS.

Genomedics S.r.l. — Senior Full-Stack Developer / DevOps

Sep 2019 – May 2024 · Florence, Italy

- Built **CoreBI v1**, the dashboard engine for Business Intelligence, and drove its evolution into **CoreStack** and then **KPlatform** on Laravel.
- Designed the RESTful API server (PHP 7 → 8, Laravel) and the WebSocket server bridging queued background jobs to the client UI.
- Created the **Data Integration** area for ETL flows and the **DataK** platform, with Python connectors for PostgreSQL, MySQL, Oracle, SQL Server and DB2, and a common filesystem-hook interface for S3, HDFS, SFTP and FTP.
- Designed and shipped the two in-house CI/CD platforms (CoreRelease / CoreDeploy) described above, plus the KPlatform licensing system.
- Engineered BI rendering internals: advanced pagination and grid rendering against large-scale recordsets; custom visualisation widgets (multi-bar charts with thresholds, funnels, heatmaps, pies, histograms).
- Supported the integration of GPT-based AI engines into healthcare DSS and fashion-retail replenishment.
- Worked in TDD/Agile respecting SOLID, and **authored the engineering guidelines** followed by the rest of the development team.

Pierotucci S.r.l. — Application Software Developer

Sep 2017 – Sep 2019 · Florence, Italy

- Full refactor of the e-commerce platform from Portal Generator 2 to a Laravel + KendoUI stack; integration with major online payment providers.
- Two-way integration with Zucchetti AdHoc Revolution (C# / WinForms against the SQL Server backend) for stock availability and web order import.
- Created **WMS**, a no-code relational application builder.

Planet Sistemi Informatici — Application Programmer

Sep 2007 – Sep 2017 · Florence, Italy

- **TICK@**: SIAE-approved ticketing system with access-control web and jQuery Mobile apps, commission management and billing (PHP / PostgreSQL), plus a centralised update centre with patcher and updater.
- **UNICEF Innocenti Research Centre** (Florence): ported the projects/publications/contacts platform from Access VBA to a MySQL/PHP web-desktop (Zend Framework + KendoUI); legacy CMS for UNICEF Geneva file shares.
- **UNESCO**: “Communities of Practice” platform. **MSC Cruises**: the Insights service — PHP/Zend + KendoUI front end with a Node.js server daemon.
- Municipality of Livorno: school-canteen billing platform migrated from VB6 to PHP 7 / MySQL. RAD tooling and Visual Studio templating for ASP.NET MVC with Kendo and Entity Framework.

InterWorld S.r.l. — CTO

Sep 2002 – Sep 2007 · Florence, Italy

- Led development of LAMP/WAMP web applications: CMS, e-commerce, CRM, ERP.
- Built an in-house RAD framework with a PHP DBAL and Active Record ORM over MySQL/PostgreSQL.
- Products: Portal Generator v1/v2 (e-commerce management), Hotello 1.0 (hotel/rental booking and payments), InterCar (dealerships, integrated with the InfoCar Quattroruote database for valuations).
- Wrote a personal web-application penetration testing tool in PHP-GTK following OWASP rules.

Cosci F.lli s.a.s. — Product Developer

Sep 1992 – Sep 2002 · Florence, Italy

Leathergoods design and CAD/CAM pattern development, managing the full production process and international trade fairs (USA, Germany, France, UK, Japan, Korea). In parallel, self-taught into software: built the company's first website as a Perl CGI and its **first e-commerce in Perl (1999)**, later ported to ASP, plus an Excel-based cost calculator for new collections.

EDUCATION

Programmer Accountant (Perito Informatico) — ITC A. Volta, Florence, Italy · 1996 – 2001

Continuous self-directed learning since age 12 — the core of how I've stayed current across four decades of stacks.

AVAILABILITY

Open to freelance and contract engagements, full remote, from short AI-integration audits and MCP/tooling builds to long-running platform and CI/CD ownership.