CONTACT

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TECHNICAL SKILLS

BACKEND

PHP · Python · Flask · Django · Laravel

DATABASES

SQL · MariaDB · MySQL · PostgreSQL · SQLite

SQL EXPERTISE

Complex queries · Joins · Subqueries · Stored procedures · Triggers · Views · Backup / recovery

WEB & APIS

REST APIs · JSON · XML · JWT · OAuth2 · HTML5 · CSS3 · Bootstrap · WordPress · Basic JavaScript

SYSTEMS & DEVOPS

Linux · Windows · Bash · PowerShell · SSH · Apache · Docker · Docker Compose · Git

NETWORKING

TCP/IP · DNS · Routing · Subnetting · Firewalls · VPN · WireGuard · Cloudflare · SSL/TLS

SERGIO SEBASTIANI

SENIOR BACKEND DEVELOPER | SYSTEMS ENGINEER
AI-ASSISTED SOFTWARE DEVELOPMENT

PROFESSIONAL PROFILE

Senior Backend Developer and Software & Systems Engineer focused on PHP, Python, advanced SQL, REST APIs, and Linux-based production infrastructure. Experienced in taking applications from requirements and database design through development, deployment, integration, and maintenance.

Available for remote, part-time, and project-based software collaborations. Physics graduate with over 20 years of experience solving complex technical problems in professional environments. My recent work is primarily software engineering; industrial maintenance is the application domain, not the limit of my technical expertise.

PROFESSIONAL EXPERIENCE

Engineering Maintenance Specialist / Backend Developer & Infrastructure

ALSTOM · Florence | Oct 2018 – Present

Software engineering is the main focus of my current role (approximately 80%). Lead developer and technical owner of a production maintenance platform, working across software delivery, database systems, deployment, and operational reliability.

After Sales Engineer

ALSTOM · Florence | Nov 2015 – Oct 2019

System performance and reliability analysis, RAMS, root-cause investigation, corrective actions, technical reporting, and operational coordination.

Training and Maintenance Documentation Manager

GE TRANSPORTATION · Florence | Jun 2013 – Nov 2015

Managed maintenance documentation and technical training for an international railway signalling project.

Field Service Engineer

GE TRANSPORTATION | Nov 2004 – Jun 2013

Engineering support, testing and commissioning, measurements, technical data analysis, system diagnostics, and troubleshooting.

Mathematics and Physics Teacher

ITALIAN HIGH SCHOOLS | Nov 2005 – Apr 2010

Taught mathematics and physics.

Research Fellow

IFAC-CNR · Florence | Feb 2003 – Nov 2005

Applied physics research, measurements, and data analysis.

AUTOMATION & ANALYSIS

Python scripting

Selenium · Web automation

Data processing

Statistical analysis

Monitoring & troubleshooting

AI DEVELOPMENT TOOLS

Conversational AI

AI coding assistants in Visual Studio Code

AI-assisted debugging, refactoring, code review & documentation

ADDITIONAL KNOWLEDGE

Redis (basic)

Microsoft SQL Server (basic)

LANGUAGES

Italian — Native

English — C2 (self-assessed)

SOFTWARE DEVELOPMENT & INFRASTRUCTURE EXPERIENCE

Production Web Platform | Professional Project at Alstom

Designed, built, and maintained a production web platform used by an operational maintenance team on an RFI-related contract. Responsible for PHP backend, web interface, MariaDB schema, integrations, deployment, reliability, and continuous improvement. Developed as part of my professional responsibilities at Alstom. Technologies: PHP, JavaScript, HTML/CSS, SQL, MariaDB, Docker, Linux, REST APIs, Git.

Database Engineering | Production Systems

Designed relational schemas and implemented advanced SQL, stored procedures, triggers, views, backup/recovery procedures, and database replication. Supported migrations, maintenance, and troubleshooting across production systems.

Linux Infrastructure, Migration & High Availability

Migrated a production application from a constrained corporate cloud environment to dedicated on-premises infrastructure. Configured Linux servers, Dockerized applications, networking, secure remote access, and a two-site solution with application redundancy and database replication.

Automation, APIs & Systems Integration

Developed Python and PHP scripts, REST integrations, monitoring and reporting tools, and services connecting applications, databases, and external systems to reduce repetitive operational work.

AI-ASSISTED SOFTWARE ENGINEERING

I systematically integrate AI-assisted development into my daily engineering workflow, using conversational AI and coding assistants within Visual Studio Code. I leverage AI throughout the software development lifecycle, from requirements analysis and architectural design to implementation, debugging, refactoring, optimization, and technical documentation. I critically review AI-generated solutions to ensure correctness, security, maintainability, and consistency with existing systems, while retaining full ownership of technical decisions and implementation quality.

EDUCATION

Degree in Physics (Experimental / Applied Physics)

University of Florence | 1997–2003
Final grade: 102/110