

BACKEND & TOOLING ENGINEER

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PROFILE

Backend-oriented Software Engineer with experience in R&D and cloud-based SaaS, and background in **Rust, Python and C++**, developing APIs, infrastructure tooling and developer-facing products. Seven years across six roles, most with a different primary language: **a hands-on learner** who is comfortable prototyping, refactoring, maintaining CI/CD, and iterating on user feedback.

PROFESSIONAL EXPERIENCE

ANSYS

Aug 2024 – Nov 2025

R&D Engineer · Madrid (Remote)

- ▶ Developed a Python app generator for building model-based physics simulation pipeline runners.
- ▶ Refactored and modularised a Dash Mantine wrapper library in Python, preparing it for open-source release.
- ▶ Collaborated with R&D teams to standardise UI, format and packaging for custom pipeline configuration.

ACHIEVEMENTS

CLIENT POC Demoed to the client and carried forward by the team into a defined product goal.

MODERNISATION Rescued an unmaintained library with testing and CI to meet company standards.

Verbio Technologies

Jun 2022 – Aug 2024

Backend Developer · Barcelona (Hybrid)

- ▶ Built and maintained a high-performance gRPC API gateway in Rust, implementing the Tokio-based streaming layer carrying real-time audio to recognition servers.
- ▶ Built internal Python clients and tools for managing AWS services; provisioned infrastructure with Terraform.
- ▶ Extended a REST API and backend services for an internally used dashboard.
- ▶ Maintained legacy C++ code and tests for real-time voice-recognition processing of audio calls.

TECHNICAL SKILLS

LANGUAGES

- ▶ C++
- ▶ Rust
- ▶ Python
- ▶ C#
- ▶ Java
- ▶ Haskell

BACKEND & INFRA

- ▶ gRPC and REST APIs
- ▶ AWS
- ▶ Terraform
- ▶ SQL
- ▶ Docker
- ▶ CI/CD

TOOLING & TESTING

- ▶ Git
- ▶ Linux
- ▶ GoogleTest and Pytest
- ▶ Jenkins
- ▶ GitHub Actions

WAYS OF WORKING

PRACTICES

- ▶ Code review
- ▶ Test-Driven Development
- ▶ Technical documentation
- ▶ Legacy code maintenance

PROCESS

- ▶ Scrum and Kanban
- ▶ Sprint ceremonies
- ▶ Remote and hybrid work

ACHIEVEMENTS

- GO-LIVE** Took the gateway from pre-release to serving the product's first client companies.
- SCALABILITY** Routed real-time audio streams across an autoscaling pool of recognition servers, provisioned in Terraform.

QAD DynaSys

Software Developer · Barcelona (Remote)

Jun 2021 – Jun 2022

- ▶ Refactored legacy C++ desktop application code to integrate with a modern C# frontend.
- ▶ Improved code structure, stability and performance.

ACHIEVEMENT

- SAAS TRANSITION** Adapted a legacy C++ desktop application for a web-facing architecture, as part of a multi-year migration.

Capitole Consulting

Consultant & Developer · Barcelona (Remote)

Jan – Jun 2021

- ▶ Fixed performance issues and bugs in existing C++ codebases.
- ▶ Developed a PDF report generation tool in Python.
- ▶ Redesigned internal data structures to improve maintainability.

ACHIEVEMENT

- AUTOMATION** Replaced a fully manual reporting process with a Python tool generating colour-coded result tables and threshold summaries.

HP Inc.

Junior SDET & Junior DevOps · Barcelona (On-site / Remote)

Sep 2018 – Sep 2020

- ▶ Developed and maintained C++ unit tests with GoogleTest for firmware product teams.
- ▶ Maintained the organisation's Jenkins deployment: repaired broken pipelines and built new ones on request.
- ▶ Prototyped a Go tool for backing up and restoring Jenkins instances, validated end to end on a test instance.

ACHIEVEMENT

- TEST COVERAGE** Brought previously untested firmware under automated test for two product teams.

EDUCATION

B.Sc. Informatics Engineering

Universitat Politècnica de Catalunya · Barcelona

2013 – 2018

LANGUAGES

English	C1 (Fluent)
Spanish	Native
Catalan	Native

PROJECTS

 Bluesky client

GO · SINCE 2026

Lightweight ATProto client, written from scratch to learn Go.

 Agent harness

PYTHON · SINCE 2026

Multi-step reasoning agent with tool calling and memory.

 Home network

DEVOPS · SINCE 2021

Two houses and a rented VPS on one network, running self-hosted services for family use.