

Arthur Hugo da Rosa

Backend Software Engineer

· | rosa.arthurh@gmail.com | linkedin.com/in/arthurhugodarosa | github.com/arthurhdr
Curitiba, PR – Brazil | Open to remote

Professional Summary

Backend engineer with nearly 3 years of experience designing and operating distributed systems, REST APIs, and event-driven microservices in production. Sole backend engineer on a multi-tenant platform built with Python, FastAPI, PostgreSQL, and Redpanda/Kafka that sustains ~1,000 requests per second for 100+ clients at millisecond latency. Focused on application architecture, data modeling, and maintainable, well-tested code.

Technical Skills

Programming Languages: Python, Java, Go, TypeScript, SQL

Backend & APIs: FastAPI, Spring Boot, Flask, Django, Node.js, Express.js, REST APIs, JWT/OAuth2

Distributed Systems: Event-driven architecture, microservices, stream processing, multi-tenancy, Redpanda, Kafka, Faust

Data & Storage: PostgreSQL (table partitioning), MySQL, MongoDB, Redis, SQLAlchemy, Alembic

Testing & Quality: pytest, unit & integration testing, design patterns, code review

Infrastructure & DevOps: Docker, Kubernetes (k3s), Terraform, ArgoCD, GitHub Actions, CI/CD, AWS S3, Hetzner Cloud

Observability: Grafana, Prometheus, Loki, Grafana Alloy

Practices & Tools: Git, Linux, Agile/Scrum, uv

Frontend (working knowledge): React, Next.js, Tailwind CSS

Professional Experience

Software Developer

Jan 2026 – Present

Pixel Breeders

São Paulo, SP – Remote

- Sole backend engineer for the **CDM (Common Data Model)**, an event-driven, multi-tenant platform for short-term rental property management that integrates multiple Property Management Systems (PMS) via webhooks in a microservices architecture, serving **100+ clients** in production.
- Design and maintain the **Event Gateway** in FastAPI: receives, validates, and routes webhooks from each PMS into per-tenant **Redpanda** queues, guaranteeing tenant isolation and event ordering from the moment events enter the platform.
- Implement **stream processing** workers in Python with **Faust**, applying the adapter pattern with mapper and enricher layers to normalize **30+ event types** into the canonical CDM format.
- Develop the **Core API** in FastAPI over **PostgreSQL** with per-tenant table partitioning, JWT-based authentication, versioned Alembic migrations, and pytest coverage across all domains (reservations, guests, inventory, pricing, communications).
- Sustain ingestion of **~1,000 requests per second** with millisecond-level latency between entity creation in the third-party PMS and its persistence in the database.
- Provision and operate a **Kubernetes k3s HA cluster** (3 control planes + etcd) on Hetzner Cloud via **Terraform**; run GitOps with ArgoCD/Kustomize, CI/CD with GitHub Actions, an observability stack with Grafana, Prometheus, Loki, and Grafana Alloy, and file storage on AWS S3.

Software Development Intern

Jan 2024 – Dec 2025

Federal University of Santa Catarina (UFSC)

Florianópolis, SC

- Developed a quantum computing simulation web application with Node.js, React, and Python, delivered to production and used concurrently by **30+ students** in the Quantum Computing I course.
- Built and published static science-communication websites to production, collaborating through Git (branches, code review, and pull requests) on projects with multiple contributors.

Selected Projects

GreatCall – Video Conferencing Platform (*Java, Spring Boot, WebRTC, Docker*) | github.com/arthurhdr/GreatCall

- Built a real-time video conferencing platform with authentication via Spring Security (BCrypt + sessions) and WebRTC integration through ZegoCloud, supporting rooms of up to 50 simultaneous participants with screen sharing and chat. Containerized with Docker.

AI-Powered Email Classifier (*Python, Flask, Gemini API, Docker*) | github.com/arthurhdr/classificador-de-emails

- Built an automatic email triage application deployed on Render: the Flask backend parses PDF and text files and consumes the Gemini API with structured JSON responses, while the JavaScript frontend renders each classification dynamically.

Education

University of the Region of Joinville (Univille) – Joinville, SC

Associate Degree in Systems Analysis and Development (Technologist) · Jan 2026 – Expected Dec 2028

Federal University of Santa Catarina (UFSC) – Florianópolis, SC

Physics (B.Sc.) – 3 years completed; transferred to Systems Analysis and Development · Jan 2023 – Jan 2026

Languages

Portuguese – Native | **English** – Advanced (reading, writing, and technical communication)