

CARLOS ANDRÉS ROJAS

Senior Software Engineer

Distributed systems · Platform engineering · Java · Scala · TypeScript

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Senior software engineer with 14+ years in production software. I design and deliver distributed systems, cloud-native platforms and full-stack products across healthcare, logistics and telemetry. Experienced with microservices, Kafka/Kafka Streams, FHIR, AWS and high-volume data workflows. MSc. in Software Engineering; native Spanish and C2 English.

EXPERIENCE

- Software Engineer (Fullstack) · Tracktec S.A.**
Santiago, Chile · B2B SaaS for industrial telemetry and logistics 2024–Present
- Own SGT Reservas V2 end to end, defining versioned API architecture and migrating six legacy modules plus four new modules.
 - Delivered Embarques to Google Play and the App Store, including Auth0, route selection, OCR of Chilean ID cards and seat assignment.
 - Established bounded-memory report processing over millions of records, buffered S3 writes and live job status over WebSockets/SSE.
 - Improved Angular monitoring and event-explorer views with server-side pagination, virtualized tables and real-time updates.
 - Introduced Redis caching, Kafka integration and AWS CDK infrastructure-as-code standards.
- Senior Software Engineer · Portavita**
Innopolis, Russia · Amsterdam, Netherlands · Multi-tenant healthcare SaaS 2018–2024
- Led the technical decomposition of a monolith into processing, enrichment and delivery microservices over REST/FHIR.
 - Designed Kafka Streams architectures using KStreams, KTables and Global KTables for cross-service topic enrichment.
 - Designed Patient Assistant, in production since 2018 and processing thousands of anticoagulation-treatment records monthly.
 - Contributed to a Medmij/FHIR platform processing millions of records in a regulated environment.
 - Selected the backend stack for a new digital-health platform and built Python tooling to generate FHIR resources.
- Research Intern · Acronis**
Innopolis, Russia · Application-aware disaster recovery 2017–2018
- Researched application-aware disaster recovery using virtual-machine testing, Windows Shadow Copy and binary analysis. Co-authored an academic paper and presented the work to Acronis CTO Nikolay Grebennikov.
- Earlier experience**
- Systems Analyst** · Laboratorios COFAR, La Paz, Bolivia · 2016–2017 — improved modules during a monolith-to-microservices migration.
- Web Development Instructor** · ATENEA, La Paz, Bolivia · 2014–2016 — designed and delivered five courses for cohorts of approximately 20 students.
- Web Developer** · E-Constitucional, Vice-Presidency of Bolivia · 2011–2013 — built publishing tools for an interdisciplinary constitutional-law research project.

SELECTED PROJECTS

- kit-a** — Browser-based architecture and planning toolkit with drag-and-drop diagrams covering 1,800+ cloud components.
- ZooMinder** — Android application for pet medication tracking, built end to end and published on Google Play.
- eConstitucional** — Legal-research assistant over structured constitutional data using retrieval-augmented architecture.
- codiva** — Two-person product studio co-founded with Marina Alekseeva.

CORE STRENGTHS

- Distributed systems
- Microservices
- Event-driven architecture
- Kafka / Kafka Streams
- FHIR healthcare
- Platform engineering
- Cloud-native systems
- API architecture
- Technical ownership
- Production delivery

TECHNICAL STACK

- Languages:** Java, Scala, TypeScript/JavaScript, Python, Dart, Bash
- Backend:** Spring Boot, Akka HTTP, Node.js/NestJS, Express, REST, FHIR HAPI
- Frontend/mobile:** React, Next.js, Angular, Flutter
- Data/messaging:** PostgreSQL, Redis, Kafka/Kafka Streams, RabbitMQ, Elasticsearch, DynamoDB
- Infrastructure:** AWS, AWS CDK, SST, Docker, Kubernetes, Jenkins, CI/CD, Linux
- Quality:** Playwright, Puppeteer, OAuth2/OpenID, testing, AI-assisted development

EDUCATION

- MSc. Software Engineering**
Innopolis University, Russia 2017–2019
- BSc. Systems Engineering**
Universidad Nuestra Señora de La Paz, Bolivia
Additional: Technical degree in Graphic Design and Visual Communication · ATENEA Institute, Bolivia.

CERTIFICATIONS

- Build RAG Applications · IBM
- Software Engineering Specialization · HKUST
- Functional Programming in Scala · EPFL

LANGUAGES

- Spanish:** Native
- English:** C2 Advanced