Rebeca Murillo

Senior Software Engineer · AI Agents & LLM Infrastructure · Product Engineering

Lille, France · rebeca.murillo.pro@gmail.com · rebeca.murillo.link · github.com/rebecamurillo

EU citizen based in France (CET) · fully remote · contractor (own company) or employee via EOR · overlap with US Eastern mornings · available for EU / UK / US off-sites

SUMMARY

Senior engineer (10+ years) who ships products end to end — from user workshops and specs to production, monitoring and on-call — and who builds and operates LLM agents in production. I design and run a self-hosted software factory: a gated multi-agent pipeline (spec → tests → implement → review, BMAD methodology) in which a custom Python orchestrator drives coding harnesses step by step, with long-running state in PostgreSQL and human approval gates as guardrails. Every run is traced end to end with Langfuse, LiteLLM and OpenTelemetry; reading traces is how I found the failure modes (loops, repeated tool calls, context truncation) with open-source models and redesigned the orchestration around deterministic steps. The shipped products are the proof: a React Native social app grown from 5K to 15K users, software for small associations, and open-data and optimization tooling for a 30-partner Horizon Europe project. The stack is a parameter; the product is the point. Trilingual French / English / Spanish.

CORE COMPETENCIES

End-to-end product ownership · Production LLM agents · Agent harnesses (Claude Code, Codex, OpenCode) · Multi-agent orchestration and sub-agents · Guardrails and approval gates · LLM observability (Langfuse, OpenTelemetry, LiteLLM) · Trace-driven evaluation · Cost-tiered model routing · Reviewing agent-written code · Python · Full-stack TypeScript (React, Next.js, React Native, Node.js) · REST APIs · PostgreSQL · Kubernetes (GKE) · CI/CD (GitHub Actions) · On-call & SLOs · TDD · Spec-driven development · Stakeholder workshops

EXPERIENCE

AI software factory — independent lab

Agent harness orchestration, evals and LLM observability · remote · 2026 – Present

A self-hosted, gated multi-agent pipeline that ships production features for real products: Les Martines (15K users), AssoBubble (software for small associations and churches) and a personal family-organisation app. Agents follow the BMAD methodology for spec-driven development from idea to code, with quality gates, TDD and code review at each step; a Python orchestrator drives the harnesses in non-interactive mode, and every step is traced for cost and failure analysis.

Stack: Python, TypeScript, PostgreSQL, Langfuse, LiteLLM, OpenTelemetry, LangGraph, Claude Code, Codex, OpenCode, Ollama, Docker, Dokploy.

INRIA — French National Institute for Research in Digital Science and Technology (INOCS team)

Research & Development Engineer, Full-stack · Lille area, France · Mar 2025 – Present

Horizon Europe project SUM (Seamless Shared Urban Mobility): 30 partners, 9 living-lab cities, integrating new shared mobility with public transport.

- Own the SUM Open Data Platform (odp.sum-project.eu) end to end: lead co-design workshops with city partners (15 participants), turn outcomes into specs, build and ship the platform (React, TypeScript, Python, MySQL, GitHub Actions CI/CD), and track city KPIs and activities.
- Package the team's bilevel optimization models (bike-sharing network design, dynamic pricing and demand simulation) as reusable, documented Python modules with reproducible environments; solver runs with Gurobi on the Grid'5000 HPC testbed.
- Build data pipelines (GTFS → JSON/GeoJSON, OpenTripPlanner) and interactive web demonstrators (Astro/React, GitHub Pages) that make model outputs explorable by non-specialists — open source: inria.github.io/inocs-sum-project-demo.
- Present the platform and research results to the 30-partner consortium and publicly (SUM webinar); authored or co-authored 4 EU deliverables and 1 scientific paper.
- Integrate impact-assessment and decision-support tools from the team's research into the platform.

Stack: Python, TypeScript, React, Astro, MySQL, Gurobi, OpenTripPlanner, GitHub Actions, CapRover.

Les Martines — social app creating a safe space for women

Co-founding Engineer (part-time) · Paris, France · remote · Nov 2024 – Present

- Own the mobile product with the founder from roadmap to store release: grew the base from 5K to ~15K registered users, ~1 release per month, 4.8★ store rating, ~8K daily serverless function calls. Features now ship through the agent pipeline above.
- Shipped CI/CD pipelines (GitHub Actions, Xcode Cloud), multi-country support for French-speaking markets, end-to-end encrypted messaging, user map and postal-code-geolocated ads; ongoing retention and UX work.

Stack: React Native, React, TypeScript, Firebase/GCP, iOS, Android.

Adeo Services — retail group (parent of Leroy Merlin; 13 international brands)

Software Engineer, Full-stack · Lille area, France · hybrid · Jun 2021 – Jun 2024

- Built authentication and customer-data orchestration components integrated with the group information system through REST APIs and Kafka / Pub/Sub messaging.

- Operated them in production on GCP Kubernetes (GKE) with on-call duty and Slack alerting, holding a 99% SLO: 3 APIs, 6 micro-frontends, 3 messaging components — 500K+ requests/day, 30M+ users.

Stack: Java/Spring Boot, Kotlin/Vert.x, Node.js/Express, Vue.js, Redis, MongoDB, Kafka, Pub/Sub, BigQuery, Docker, Python.

Independent — Product Engineer, Full-stack

Selected clients (5-star client reviews) · remote · Nov 2019 – Present

- Sustainable Finance Observatory (Horizon Europe PIISA, 2025): built home-risk.eu end to end — a home clay-shrinkage risk report combining geolocated open-data APIs with real-estate price estimates. TypeScript, Astro, AWS, PostgreSQL/PostGIS.
- Top Diffusion SA (2020–2026): maintain and extend expomaison.eu — SSR site (Node.js/Express, MongoDB, AWS EC2/S3/SES), custom page builder, GA4 migration and analytics dashboard.
- Magma (2023): Cypress end-to-end test suite for a Node.js/Vue.js app, wired into GitHub Actions CI/CD. Weaverize (2020): front-end of Transbio, a biological-test quality-control app (Lit-Element, TypeScript). Studiolabs Rize (2019): NestJS / React features.

Earlier roles (2013 – 2018)

- Auchan France — Business Analyst (Dec 2017 – Dec 2018): Gold ERP maintenance (PHP/Symfony, SQL, PL/SQL); managed developments with an outsourced team in Morocco.
- Embisphere RFID (for Asitix) — Software Engineer (Sep 2016 – Jun 2017): Java Android app and Spring Boot API for RFID inventory and logistics; Elasticsearch/Graylog for maintenance.
- Decathlon — Information Systems Engineer, apprenticeship (Sep 2013 – Aug 2016): project lead for customs developments connecting a Java Struts app to SAP via webMethods; Oracle.
- LIFL / IRCICA (CRIStAL) — Research intern (2013): C++ / MATLAB evaluation of histogram-based person recognition in video streams.

OPEN SOURCE & WRITING

- Writing: rebeca.murillo.link — blog on building products with AI agents (the pipeline, tracing and cost lessons above); dev.to/rebecamurillo (S3 + CloudFront hosting, GitHub Actions deployments, Astro i18n).
- github.com/inria/inocs-sum-project-demo: SUM optimization demonstrators (Astro/React, versioned GTFS-derived datasets, OpenTripPlanner reference setup).
- github.com/rebecamurillo: astro-blog-i18n-starter (Astro starter with i18n, 30★), serverless SES mailer template, CSV-to-JSON tool, French company contact search API.

SKILLS

- **AI / LLM:** AI agents and agentic workflows, Claude Code and Codex harnesses, LangGraph, Langfuse (self-hosted), LiteLLM, OpenTelemetry tracing, prompt and context engineering, Ollama, MLX
- **Languages:** TypeScript / JavaScript, Python, Java, Kotlin, SQL (earlier: PHP, C++)
- **Product stack:** React, Next.js, Astro, Vue.js, React Native, Node.js (Express, NestJS), Spring Boot, Vert.x, REST API design
- **Optimization & data:** Bilevel optimization models, network design, dynamic pricing / demand simulation, Gurobi, Grid'5000 HPC, GTFS / OpenTripPlanner, data pipelines, PostgreSQL/PostGIS, MySQL, MongoDB, Redis, BigQuery, Kafka, Pub/Sub
- **Cloud & delivery:** GCP (GKE Kubernetes, Firebase), AWS (EC2, S3, SES, CloudFront), Docker, Dokploy, CapRover, GitHub Actions, Xcode Cloud, Datadog, MLflow, on-call
- **Practices:** Specification-driven development, TDD, Clean Architecture, DDD/BDD, Cypress e2e, code review and mentoring, co-design workshops, technical presentations

EDUCATION & CERTIFICATIONS

- Master of Engineering (Diplôme d'Ingénieur), Telecommunications — IMT Nord Europe, Lille, France, 2016
- DUT Computer Science (2-year technical degree) — IUT A, Université de Lille, France, 2013
- TDD, DDD & Clean Architecture in Python with BDD — Wealcome, 2026 · TDD & Clean Architecture with React/TypeScript — Wealcome, 2025

LANGUAGES

French, English, Spanish — professional fluency in all three; workshops and presentations delivered in each.