

Sergio Mendoza

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SUMMARY

Senior/Staff Software Engineer with 8+ years building across the full stack, with deep experience in product engineering, e-commerce, and LLM-powered agentic systems. Designed and shipped production AI products end-to-end — multi-agent architectures, tool-calling, schema-validated structured outputs, eval harnesses, and memory extraction. Experienced driving large-scale technical initiatives across backend, frontend, mobile, and data, including A/B testing frameworks that have measurably moved conversion. Operates as a force multiplier — raising the technical ceiling of teams through architecture decisions, tooling investments, and hands-on mentorship.

EXPERIENCE

Principal Engineer — Sunday Lawn Care (Sequoia-backed)

Sep 2021 – Present

Boulder, CO

- Designed and shipped Sunny, a production agentic LLM system: tool-calling agents with query routing, schema-validated structured outputs, context/prompt construction, and an eval harness (Braintrust) gating changes — scaled to 1.3M+ annual messages (1.5x YoY) and 35k MAU (~30% of the subscriber base); initially cut support tickets by up to 33%.
- Architected an AI-powered Lawn Health Service pairing generative LLM agents with a deterministic state-machine pipeline — building funnel analysis, observability, and reliability guardrails around non-deterministic AI output while preserving the flexibility of AI-driven recommendations. Directly targeted the company's top retention risk.
- Led an incremental route-by-route CSR-to-SSR migration to React Router 7 as part of a broader AEO/GEO strategy, keeping the team productive by avoiding a full rewrite. Delivered measurable SEO improvements and increased AI citation frequency tracked via Bing Webmaster Tools.
- Shipped a net-new iOS and Android app using Expo and React Native, launching first to existing subscribers before extending to a full acquisition funnel. Reached 50k downloads in the first 6 weeks at a 4.5-star rating; now the dominant subscriber surface, carrying the majority of AI interactions and educational engagement.
- Designed and built a full-stack pay-as-you-go subscription model using Stripe, replacing an annual-only flow that required \$300+ upfront. A/B tested the new entry point against the legacy model, driving a 40% increase in conversion to paid plans and a ~\$3M acquisition increase with no meaningful retention impact.

Senior Software Engineer / Tech Lead — Artifact Uprising

Nov 2018 – Sep 2021

Denver, CO

- Rebuilt a legacy Java Spring Boot project service that stored photo projects as schemaless JSON blobs into a serverless AWS Lambda service backed by DynamoDB, modeling real relationships across templates, layers, assets, and designs — improving data integrity, query performance, and maintainability.
- Replaced an in-memory job queue in a Spring Boot order-processing service with a durable SQS pipeline (visibility-timeout retries + dead-letter-queue handling), decoupling processing from the service lifecycle and eliminating dropped jobs under restarts and load — the pipeline behind the company's core photo-product revenue.
- Replaced Spring Boot-proxied image uploads with direct-to-S3 pre-signed URLs, cutting upload latency and removing the app server as a bottleneck; moved the remaining metadata handling to Lambda, shrinking the EC2 footprint.
- Rebuilt the photo-book editor into a modern client interfacing with the new project service, improving rendering performance through targeted Redux/local-state architecture.
- Replaced a slow Magento storefront with a statically-generated React (Gatsby) frontend, eliminating server-render latency to deliver a faster, more reliable shopping experience.
- Introduced Segment as the company's first CDP, unlocking analytics, personalization, and experiment targeting where none existed. Built a homegrown A/B testing framework and partnered with data science to establish the end-to-end process for proposing, reviewing, and shipping experiments.

Denver, CO

- Built an insurance proposal PDF-rendering application in React that generated client-facing proposal documents — turning structured policy data into polished, presentable output for agents.
- Helped build the initial implementation of a white-label exposure data store — a greenfield Java Spring Boot service designed to hold insurance exposure data for companies of varying sizes across multiple insurance lines.
- Contributed to an enterprise design system adopted by 100+ developers, building Storybook components and presenting work to org-wide audiences across multiple all-hands demos.
- Built Postman and Selenium integration test suites from zero to ~80% coverage on a greenfield Java Spring Boot service, establishing the testing foundation for a team that had none.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript (Node.js), Python, Java, SQL, YAML

Frontend: React, React Native, React Router 7, Next.js, GatsbyJS, Vite, Storybook

Backend: Node.js, Django, FastAPI, Java Spring Boot, GraphQL, REST, serverless

AI / Agents: LLM application architecture, Pydantic AI, tool use, structured outputs, prompt & context engineering, RAG, memory extraction, eval harnesses (Braintrust), Claude Code, agent skills & harness engineering

Cloud (AWS): Lambda, SQS, S3, DynamoDB

Cloud (GCP): Cloud Run, Pub/Sub, Cloud SQL, GCS (signed URLs)

Data & Infra: PostgreSQL, Redis, Kubernetes, Istio, ArgoCD, Buildkite, Docker, Segment, Sentry, Datadog, New Relic

Testing: Vitest, Jest, React Testing Library, Cypress, Selenium, Postman