

José Miguel Hernandez

Staff Software Engineer | Applied AI & Agent Platforms

info@jose.io · 831-818-5505 · github: jozecuervo · linkedin: josemiguelhernandez · Morro Bay, CA (remote)

SUMMARY

I build the AI tooling other engineers work on top of, and the guardrails that make it safe to run. At AdRoll, that meant agent-planned migrations across 28 repositories, security controls in our internal agent's Python broker, evals for our agent skills before they shipped, and customer-facing AI features in our ad builder. I recompose what already works instead of rebuilding it, I make complex systems legible enough for people to decide with, and I own the work from prototype to production.

EXPERIENCE

AdRoll (NextRoll), San Francisco · Remote

Jun 2017 – Jul 2026

Staff Software Engineer

Hired as Senior Software Engineer; promoted to Staff. AdRoll has been used by over 140,000 brands and handled 120 billion ad auction requests a day. I kept the web apps and services that turn advertisers' budgets and creatives into campaigns running, to keep our bidders spending at scale for our customers.

Agent Safety and Internal Agents

- Second-largest contributor to our internal LLM agent. After classifying its access model as critical-tier under the lethal-trifecta model (private data, untrusted input, ability to act), built a mandatory kill switch in its Python broker, a CI test that fails on unclassified write endpoints, and requester-and-rationale provenance on agent PRs, so each could be audited against our SOC 2 controls. Added its S3 read endpoint, pull-request update command and Block Kit messages for a richer Slack experience, closed two security-review findings, and required signed requests on its Slack interactions.
- Built and shipped 411Bot, a second Slack agent on the same runtime that answers who owns what across the org from the service catalog, ownership records and org chart, moving its skills from my prototypes into the shared repo.
- Largest contributor to our shared agent-skills repo. Wrote its eval-before-merge rule, which requires each new skill's pull request to document an invocation, input, output and pass/fail judgment, and its S/M/L sizing convention, enforced by a linter and carried by 125 of 128 skills. Audited the repo against the SVP of Engineering's nine AI principles, wrote its auto-invoke policy, and disabled auto-invoke on 54 skills.
- Evaluated agent skills against our real codebase before promoting them, and re-ran them after each fix until they came back clean. Audited skill-use telemetry to find skills that never fired or ran on too small a model, and tested our internal agent by hand before and after every change to it or to the shared skills.
- Ported a colleague's product-intelligence prototype into our internal agent: a read-only Zendesk broker and skills that support ran from Slack, then four reusable product-management skills in the shared skills repo.
- Wrote most of the SOUL.md, guardrails and rapid-prototyping skills for Monet, a Slack design agent grounded in the design system's tokens and patterns.

Agent Platform and Developer Tooling

- Extended developer tooling into a dependency-and-ownership graph that scanned all ~800 of AdRoll's repositories, routing upgrade PRs, Jira tickets, and Slack notifications to owning teams. Built a 7-tool MCP server for it, then replaced it with a shared skill in our internal agent, so no engineer had to configure a server to query the graph.
- Designed the org's React 19 migration so one engineer with LLM agents could drive it: mapped the chains of dependency updates across 26 repositories on mixed React versions and adjacent libraries, planned the work over the Atlassian MCP, and dispatched it over the Buildkite MCP to CI pipelines that opened the upgrade PRs, gated by cohort with a live dashboard per cohort. Built an AI-assisted effort model that caught a 2–4 week underestimate within days; Hack Week Overall runner-up.
- Built the design system's canonical source and implementation gates so AI-assisted prototypes stayed aligned with the components downstream teams used; checked visual drift with a full-product Playwright snapshot gallery.

- In a few nights, working with an AI agent, audited all 815 of AdRoll's production feature flags, corrected 300 mislabeled statuses with one false-positive complaint, and gave each owning team a view of its stale flags; presented the results at the company's Global Town Hall.

Applied AI and Ad Products

- Built AI-generated copy and image-outpainting interfaces for Create Web Ads, an HTML5 ad builder. Within about six months, more than 250 advertisers were spending on ads made with the product.
- Prototyped an AI ad builder that generated a templated HTML5 ad from a customer's site data in one shot.
- As an early partner for OpenAI's ads API, before it was public, worked from screenshots of OpenAI's beta Ads Manager to map it onto our ads and assets models: wrote backend, frontend and data-model specs checked against our codebase, and built a working ads-manager prototype on a mocked API, in two days. AdRoll announced its ChatGPT ads integration as a customer pilot in August 2026.
- Built the front end and tool integration for an internal AI media-planning assistant for sales reps preparing pitches. A teammate and I tested every prompt edit against three sample briefs and a pass/fail checklist; my check of the prompt against a live API response surfaced eight schema mismatches and produced the next version.
- In 2026, in the ads service's Python backend (Flask, SQLAlchemy), wrote the data migration that corrected about 14,000 misclassified ads, and triaged all 100 unresolved Sentry issues into six tickets in a day. Diagnosed an N+1 query affecting 309 users and fixed three other bugs, including a silent failure that stopped whole-advertiser syncs and a label-creation race behind 11,000+ error events.

Technical Leadership

- Ran Front End Core from 2018 through 2026 and pioneered the Enzyme-to-RTL migration.
- Led the Creatives team's 2026 AI roadmap, translating product goals into technical specifications and effort estimates.
- Produced NextRoll's twice-yearly Hack Week 14 times; seven placements, four wins; mentored five interns.

Pandora, San Francisco

Dec 2015 – Mar 2017

Senior Software Engineer, Consumer Electronics

- Enabled Pandora's 80 million active listeners to listen on smart TVs and inside Uber: built the account linking in Uber's app, supported the LG smart-TV and Chromecast apps, and architected and built the lab rig that certified partner devices.
- Rebuilt Pandora's Chromecast receiver for the Premium launch, adding repeat, shuffle, and queue controls, and profiled its performance on first-generation hardware.
- Worked on integrations for Samsung, Android TV, and Windows 10, plus shared client and message-bus infrastructure for Chromecast and Google Home.

Rdio, San Francisco

Jun 2014 – Dec 2015

Senior Software Engineer

- Managed Rdio's Roku partnership and built account-linking and subscription-billing flows, including an inline 30-day trial purchase.
- Built Rdio's shutdown export experience as a graceful send-off for listeners, letting them download their collections or transfer stations to Pandora, with a personalized listening-history timeline.

TastemakerX, San Francisco

Mar 2013 – Jun 2014

Senior Software Engineer

- Relaunched TastemakerX's music-discovery client as a Backbone single-page app, building activity-feed aggregation, a media-embedding engine, responsive UI, and Facebook onboarding; shipped convertmyplaylist.com, a Spotify-to-Rdio playlist converter.

Telly (formerly TwitVid), San Francisco

Dec 2011 – Sep 2012

Lead Front-End Engineer

- Led TwitVid's front-end redesign into Telly, rebuilding its PHP/Mustache application as a hybrid SPA with History.js navigation; shipped a Chrome bookmarklet, browser-side event tracking, and three-language localization.

50 Cubes, San Francisco

Jan 2010 – Oct 2011

Director of Activation

Owned platform integrations and distribution for two top-100 Facebook games, Mall World (5.6M MAU) and Fashion Designer (3.4M MAU), across every social network that would carry them.

- Owned the JavaScript/HTML platform and payment layer around both games: Facebook integration and viral flows, syndication across MySpace, Orkut, hi5, Plinga, and Viximo.
- Built a SWF-to-SVG/PNG conversion pipeline for ~14,000 Flash assets, then built JANICE, an avatar runtime for mobile browsers that consumed the converted catalogue.

AOL, San Francisco

May 2008 – Nov 2009

Senior Software Engineer

- Built admin tools, templates, and reporting for self-counting ad placements deployed across ~50 locations, including most of Bebo's front page at ~9M daily views.
- Built the admin for routing ~20 ad tags from ~10 providers, with audit logging on every change, a start/stop kill switch, and a counter on each tag to settle delivery disputes with our own numbers.

Bebo, San Francisco

Sep 2006 – May 2008

Senior Software Engineer, Ad Operations

Hired into ad operations to build sponsored profile pages; moved to engineering and promoted.

- Hand-built large-brand sponsorships, profile takeovers, and contests in HTML and Flash, including full IAB size matrices with Flash units and GIF fallbacks; homepage takeovers were worth \$10K–\$50K a day.
- Established reusable sponsorship specs and templates, moving campaigns from hand-built production to a system sales teams could run.
- Ad targeting on every page load was slowing a site that grew past 200 million page views a day. Coming from ad operations, I engineered the front end of the fix and led its product side: wrote the spec for a counter service that split targeting and analytics out of the page, designed the data schema the front end needed, designed and built its dashboards, co-built the service, and kept the existing ad setup running until it shipped. It held up as designed.

SKILLS

Applied AI · AI agents, large language models (LLMs), agentic workflows, Claude Code, Codex, Cursor, Claude API and Agent SDK, Gemini, local LLMs (Ollama), MCP, tool calling, prompt engineering, evals, guardrails, provenance

Developer Tooling · CI/CD pipelines and merge gates (Buildkite, GitHub Actions), dependency and ownership graphs, migration automation, codemods, MCP servers, agent skills, feature-flag hygiene (Split), Node.js, shell scripting

Languages · Python, TypeScript, JavaScript, Go, Java (JSP), PHP, SQL, GraphQL; Swift and Objective-C for mobile integration

Backend and Data · Flask, Django, SQLAlchemy, Postgres, Trino, Redash, OAuth, payments, billing

Infrastructure · AWS (S3, ECS, ECR, IAM), Terraform, Docker, observability (Datadog, Sentry)

Testing · Playwright, Jest, React Testing Library, Appium (device labs)

Frontend and Design Systems · React, Next.js, Redux, Webpack, design systems, component libraries, Figma, design tokens, accessibility

EDUCATION

University of California, Santa Cruz · BA, Film and Digital Media