

CARLOS RAVELO

Staff Software Engineer / Solutions Architect

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SUMMARY

Staff Software Engineer / Solutions Architect with 18+ years building high-scale web platforms, internal tooling, content delivery systems, search/retrieval workflows, and cloud infrastructure. Strong background in systems design, full-stack platform development, technical leadership, and mentorship across web products, e-commerce, ad technology, and AI-assisted workflows. Recent work spans Go, Node.js, Python, React, Kubernetes, AWS/GCP, Fastly, PostgreSQL/pgvector, and modern LLM/search tooling.

EXPERIENCE

Ask Media Group / Ask Applications | May 2016 - Present

Solutions Architect / Staff Software Engineer | Remote | Team: 8-10 | Jan 2022 - Present

Tech: Go, Node.js, Python, PostgreSQL/pgvector, AWS/GCP, Kubernetes/EKS, Fastly VCL, GitLab CI/CD, Prometheus/Grafana, OpenSearch/Fluentd, Playwright, k6, vegeta

Business context: *Technical lead/architect for content delivery across frontend platform, platform/backoffice services, search microservices, Related Search for Content (RSOC) article sites/ads, and ad-adjacent automation; partnered with CTO & director, business owners, product, ad ops, and engineering leads on roadmap and delivery.*

- **Owned architecture reviews, ADRs, formal design docs, development standards, tech stack/vendor selection,** and cross-team alignment across frontend, platform, search, RSOC, and ad automation teams.
- **Modernized content delivery and site infrastructure** with centralized configuration, group deployments, HPA, observability, load testing, and failover planning; **helped deliver 80-85% OpEx reduction and 95% fewer frontend incidents.**
- **Replaced 30+ drifting frontend repositories** with one configuration-driven platform **serving over 3000 sites** through inheritance-based configuration, group deployments, traffic shaping, and spam filtering.
- **Improved image relevance for editorial and automated ad workflows** with CLIP image embeddings, Snowflake Arctic text embeddings, BM25, generated tags/descriptions, MS MARCO reranking, and Reciprocal Rank Fusion.
- **Architected A/B and multi-armed bandit experimentation platform** using a Go-based Kubernetes operator, Kubernetes API/source-of-truth model, and Fastly synchronization for portfolio-wide experiments.
- **Built AI-assisted ad-verification workflow for Google/Bing and internal policy compliance** processing 250K+ ads/day, with bursts into the millions, RSOC ad/image/article intent matching, using rule-based prefilters, structured LLM validation, schema validation, retries, audit logs, dashboards, evaluation sets, and human review queues.
- **Served as go-to mentor for frontend/content delivery tech leads, senior engineers, and junior developers;** coached engineers into ownership of key platform systems.

Principal Software Engineer | Remote | Team: 6-8 | May 2021 - Jan 2022

Tech: React, Node.js, Redis, PostgreSQL, AWS/GCP, Kubernetes, GitLab CI/CD, Prometheus/Grafana, Playwright, Retool, DynamoDB, AWS Lambda

Business context: *Designed and led the site revenue allocation, site configuration, and agency management system that became the operational control plane for frontend business teams.*

- Built platform used by business leaders, program managers, agency managers, and frontend developers, enabling site launch/config changes in 1-2 clicks with API-level business validation.
- Centralized site configuration and revenue allocation to reduce manual work, prevent invalid configurations, and eliminate engineering configuration drift across the portfolio.
- Built campaign management, analytics, Retool apps, PostgreSQL/Node.js APIs, and a push notification monetization engine with near-real-time analytics using AWS Lambda, Redis, and DynamoDB.

Principal Software Engineer | On-site to Remote | Team: 3 | Feb 2019 - May 2021

Tech: JavaScript, React, Redux, Node.js, jQuery, LESS/Sass, GitLab CI/CD, Docker, GCP, analytics tooling, A/B testing, browser extension APIs

Business context: *Supported a Chrome New Tab team that created, maintained, and optimized 150+ products in a multi-million dollar portfolio. My contributions led to all pages being configured, customized, experimented on, and released from one branch instead of maintained by hand.*

- Designed configuration-driven site builder framework using layouts, outlets, pluggable widgets, props, and inherited/override A/B/C/control tracks for brand, feature, and partner variants.
- Improved launch speed, experimentation velocity, and maintenance burden by organizing product configs, experiments, and releases in one branch and release train.
- Built lazy-loaded widgets and experiments for animated backgrounds, content search/delivery, RSS/news, weather, app-store-style surfaces, analytics flow, and engagement/retention testing.

Senior Software Engineer | On-site | Team: approx. 10 | May 2016 - Feb 2019

Tech: JavaScript, jQuery, React, LESS, Docker, JSDoc/typed JavaScript, GCP, Atlassian tools

Business context: *New Tab search monetization team scaling partner-specific browser experiences and product-led experimentation.*

- Created automation scripts and static-site generation foundations that evolved into the configuration-driven New Tab build framework.
- Built and maintained New Tab components and collaborated with product managers to design, launch, and iterate on A/B tests.

Reflexions Data | Dec 2013 - May 2016

Senior Software Developer / Tech Lead | On-site | Team: approx. 10 | Nov 2014 - May 2016

Software Developer | On-site | Team: approx. 4 | Dec 2013 - Nov 2014

Tech: PHP, MySQL, Symfony, Composer, proprietary MVC, jQuery, Sass, Bootstrap, AWS/EC2, Linux

Business context: *Led major improvements to The Shade Store's custom e-commerce platform spanning CRM, sales, measure/install, POS, reporting, vendor/affiliate integrations, and operations.*

- Improved high-value lead and order workflows by aligning lead/order data, optimizing indexes/queries, and resolving performance failures that blocked large prospects.
- Built measure/install request intake and routing system; improved sales commission and financial reporting accuracy by reconciling order reports to penny-level precision.
- Led cart redesign for large custom shade orders, refactoring data model, APIs, and queries so carts with hundreds/thousands of custom products reliably loaded and processed.
- Mentored junior developers through onboarding, code reviews, and pair programming while supporting release management and production maintenance.

Tech: PHP, MySQL, Elasticsearch, JavaScript, jQuery, web scraping, automation, media management, custom CMS/web applications

Business context: *Agency/consulting delivery for retainer clients, focused on reliable delivery, perceived value, and customer retention.*

- Delivered client systems across web scraping, automation, media management/playback, and custom PHP applications; implemented Elasticsearch indexing and prioritization for complex search requirements.

Ask Applications | Nov 2012 - Dec 2013

Software Engineer | On-site | Team: 9 | Nov 2012 - Dec 2013

Tech: JavaScript, C++, jQuery, WordPress, Java/Spring, browser extension APIs

Business context: *CouponAlert was a mini-startup inside Ask Applications, diversifying beyond search monetization through coupon clipping, price comparison, affiliate revenue, and browser extensions.*

- Maintained Firefox/Chrome extensions and IE Browser Helper Object supporting millions of active users; built scraping/UI communication workflows, WordPress features, and responsive site updates.

EILEEN FISHER Inc. | Oct 2009 - Nov 2012

Web Developer / Intranet Team | On-site | Team: 2 | Oct 2009 - Nov 2012

Tech: PHP, MySQL, HTML, CSS, JavaScript, jQuery, AJAX

Business context: *Supported company-wide collaboration across corporate teams, retail stores, and shipping warehouse while contributing to public e-commerce experiences.*

- Built first company intranet from scratch with permissions, revisions, comments, events, announcements, attachments, galleries, and Active Directory-backed employee directory; selected collaboration tools.
- Built public-site micro-frontends, custom animations, and UX experiences with designers for seasonal collections, special sales, events, and brand initiatives.

TECHNICAL SKILLS

Programming: Go, Node.js, Python, TypeScript/JavaScript, PHP, SQL

Backend & Platform: Kubernetes/EKS, Docker, AWS, GCP, Fastly VCL, GitLab CI/CD, Linux, Deno, REST APIs, service-oriented architecture, distributed systems

Data & Search: PostgreSQL, pgvector, MySQL, SQLite, Redis, DynamoDB, BM25, CLIP, SentenceTransformers, Snowflake Arctic Embed, MS MARCO, Reciprocal Rank Fusion

AI/LLM Tooling: Large Language Models, hosted/local model evaluation, structured prompts, JSON schema validation, evaluation sets, Codex, Claude Code, Cursor, Gemini CLI, Harns

Frontend & Testing: React, Redux, Playwright, jQuery, LESS/Sass, JSDoc/typed JavaScript, component frameworks, A/B testing, k6, vegeta

Leadership: Architecture reviews, ADRs, system design docs, roadmap shaping, vendor evaluation, mentoring, hiring, onboarding, incident response

EDUCATION, CERTIFICATION & LANGUAGES

Education: University of Connecticut - MIS, Business (2006-2008); CUJAE - Mechanical & Telecommunications Engineering (2004-2005).

Certification: ICAgile Certified Professional

Languages: Spanish - Native; English - Bilingual professional proficiency / Fluent