

Doug Morgen

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Full-stack engineer and former founder with deep **product** and customer focus, strong **systems architecture** experience, and a proven track record of building and scaling **high-revenue businesses**. Adept at learning new technologies, leading engineering initiatives, and architecting and building **scalable, reliable systems**.

Full-Stack TypeScript Application · 2026

- Built a **full-stack TypeScript application** using **Bun, Effect, React, TanStack Router, Tailwind CSS, shadcn/ui, Drizzle ORM, and PostgreSQL**.
- Architected a **strongly typed Effect API** with shared schemas, dependency-injected services, tagged domain errors, boundary validation, and automated **lint, typecheck, test, and build gates**.
- Implemented **secure authentication and account-scoped data access** with email/password, **GitHub and Google OAuth**, verified-email account linking, reCAPTCHA, rate limiting, and concurrency-safe resource limits.
- Containerized and deployed the application with **Docker and Kamal**, automating pre-deployment database migrations and isolating PostgreSQL behind an **Apache TLS reverse proxy**.

CTO · Arrafund · February 2024 – Present

- Founded and built a **global, multi-currency creator monetization platform** connecting influencers and businesses using **Ruby on Rails 8, Turbo, Stimulus, PostgreSQL, Redis, Tailwind CSS, and JavaScript**.
- Architected **high-performance Rails applications** with aggressive performance targets, optimizing ActiveRecord, PostgreSQL queries, caching, and ActiveStorage.
- Designed and implemented a **polymorphic social graph** supporting comments, likes, follows, shares, notifications, and user engagement features.
- Built a Shopify application using **Next.js, TypeScript, Prisma, PostgreSQL**, and Render for real-time affiliate earnings and commission tracking.
- Implemented **Stripe and Wise financial integrations** including OAuth flows, webhook processing, encrypted credential storage, and payment automation.
- Built **high-volume webhook ingestion pipelines** for Shopify and WordPress with HMAC verification, idempotency guarantees, retry handling, and asynchronous processing.
- Designed a **multi-currency commission and attribution engine** tied directly to Shopify order lifecycle events and affiliate performance.
- Deployed and operated infrastructure across **AWS, Heroku, Docker, CloudFront, Redis, PostgreSQL, GitHub Actions, and Cloudflare** services.
- Owned **end-to-end product development** including architecture, backend systems, frontend development, infrastructure, security, payments, analytics, and third-party integrations.

CTO · Homebrand · March 2026 – July 2026

- Served as **CTO and sole software engineer** for Homebrand, architecting, building, and deploying the full Rails 8 product across backend, frontend, data model, AI pipelines, infrastructure, and internal tooling.
- Built and deployed an **AI-native home operations platform** on Heroku and AWS, helping property owners manage documents, maintenance, contractors, utilities, house materials, teammate access, and property-specific Q&A.
- Designed and implemented the full application stack: **Rails 8, PostgreSQL, Redis/Sidekiq, Active Storage/S3, Devise, Turbo/Stimulus, Anthropic, and OpenAI**.
- Built the complete **AI ingestion system**, including OCR-first parsing, document classification, structured extraction, receipt/manual/warranty/policy processing, audio/video transcription, evidence indexing, and background job orchestration.
- Created **Kovu, an evidence-grounded AI assistant** that retrieves from uploaded documents, property records, materials, maintenance logs, contractors, and utilities to answer homeowner questions.
- Developed the full **property-scoped authorization model**, including multi-property support, owner/teammate roles, invitations, beta-gated signup, admin approval controls, and AI policy consent.
- Shipped all **core product workflows end-to-end**: document upload, receipt export, contractor matching, house material inventory, maintenance planning and completion history, utility tracking, property profiles, settings, and admin beta access.
- Owned **production deployment and operations** across Heroku and AWS, including managed runtime configuration, background workers, Redis-backed queues, PostgreSQL, SMTP mail, and S3-backed file storage.

Senior Full-Stack Engineer · BrightGo · April 2025 – January 2026

- Architected a **hybrid ERP accounting + operations platform** integrating legacy ERP data with **Ruby on Rails/Postgres, React + Chakra UI, and LayerFi**, delivering a modernized system for companies managing **\$20M+ in annual revenue**.
- Designed and built a **true job-costed payroll system**, enabling per-job labor tracking, real-time cost attribution, and accurate payroll-to-ledger reconciliation.
- Modernized the **React Native mobile app** to support complex schedule editing, multi-shift workflows, and real-time validation.
- Engineered **high-throughput data-migration and reconciliation pipelines** to import legacy ledgers with penny-perfect accuracy, enforcing idempotency, globally unique external IDs, and strict double-entry balance validation.
- Normalized and enforced accounting account type/subtype hierarchies during migration, guaranteeing compliance with LayerFi's ledger constraints and eliminating classification errors that blocked financial close.
- Delivered **executive-grade React dashboards** with live P&L, vendor, and customer detail views, optimized with SWR and matched to pixel-perfect Figma specifications.
- Implemented a **high-performance, role-based permissions system** using Rails policies and React front-end gating while sustaining **sub-50ms authorization checks** at scale.

- Designed **production-grade background job orchestration** for financial workflows including imports, payroll calculation, and reporting synchronization.

Senior Software Engineer · EasyPost (YC 2013) · Oct 2019 – Nov 2023

- Led architecture for **mission-critical billing systems handling \$8 billion in shipping volume** for UPS, FedEx, and DHL.
- Developed **high-throughput microservices** and optimized MySQL database partitions for performance and maintainability.
- Designed and launched a QR code endpoint that generated **100k return labels a day** in collaboration with UPS and key stakeholders.
- Standardized default carrier billing integrations by building **reusable libraries** for scalable, cross-platform billing logic.
- Built and extended **business-critical Ruby on Rails API services** powering logistics and shipping infrastructure.
- Migrated **15 services** from our Rails monolith to **Python Flask and Django microservices**, improving reliability and developer productivity.
- Led development of our in-house **UPS DAP shipping and billing infrastructure**, handling **\$15M in annual shipping volume**.

Founder, CTO, Owner & Lead Engineer · Cellular Country · 2005 – 2019

- Built and scaled an **\$8M/year B2C eCommerce business**, developing enterprise-level inventory, fulfillment, accounting, and CRM systems in **PHP & MySQL**.
- Designed and implemented an **AI real-time dynamic pricing model** to maximize revenue on every SKU sold.
- Increased conversions by **10-30%** using A/B & multivariate tests with Google Website Optimizer and Visual Website Optimizer.
- Led **SEO & SEM** strategies, driving organic growth to **5000 users/day** and profitable paid traffic growth to **3000 users/day**.
- Managed supply chain & inventory automation of **10,000 unique SKUs** and 2000 active SKUs at any time, ensuring real-time tracking and seamless fulfillment.
- Oversaw UX development, leading multiple remote engineers and designers to meet aggressive deadlines.
- Responsible for **24/7/365 99.9% uptime DevOps** on bare metal Linux servers.
- Managed an **in-house staff of 10 employees** handling all customer service and operations tasks.

EDUCATION

M.S. Mechanical Engineering, University of California, San Diego

- Developed novel imaging & chemical composition models to calculate flame temperatures

B.S. Engineering Science & Mechanics, Virginia Tech