

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.

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.
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CTO · Homebrand · **March 2026 – Present**

- 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 authentication, Turbo/Stimulus UI, Anthropic extraction/answering, and OpenAI transcription.
- 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's accounting APIs and UI components, 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 for operational and financial reporting.
- Modernized the React Native mobile app to support complex schedule editing, multi-shift workflows, and real-time validation for field employees and supervisors.
- 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 full compliance with LayerFi's ledger constraints and eliminating classification errors that previously blocked financial close.
- Delivered executive-grade React dashboards with live P&L, vendor, and customer detail views, combining BrightGo's domain models with LayerFi's real-time financial components, 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, securing sensitive accounting workflows 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 especially 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 microservice architecture, 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 on product pages, product listing pages, checkout page, and confirmation page by anywhere from 10 to 30 percent using A/B & multivariate tests with Google Website Optimizer and Visual Website Optimizer
- Led SEO & SEM strategies, driving highly profitable organic growth to 5000 users per day and profitable paid traffic growth to 3000 users a day
- Managed supply chain & inventory automation of 10,000 unique SKU's and 2000 active SKU's 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 percent 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