Alex Morais

Lead backend and platform engineer

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About 17 years building the backend systems that products run on, in Python, Django and Go. I take systems from first version to production, and have led a team of engineers growing one.

Selected work

Multi-tenant data platforms with AI features Built the backend platform and designed how data gets in

- Built the backend platform for a product made of several apps, plus the shared packages each app started from.
- Designed how customers' own data got in: file uploads, connected business systems and AI-assistant tools all went through one way in.
- Moved every customer to a new sign-in system in phases, with old and new running side by side, so nobody was logged out.
- Also worked on access control and the product's AI agent features.

Rolling cluster maintenance for databases on Kubernetes Worked on the cluster refresh modules

- Worked on a platform that ran databases on Kubernetes clusters in the public cloud.
- That included the modules that replaced a cluster's machines in dependency order: cluster state and control plane first, then ingress nodes, then workers a few at a time.
- Databases kept running while the machines underneath were replaced.

Event-driven notification and alerting systems Built the first version, then led the team that extended it

- Built the first version of a customer-facing feature.
- Led a team of engineers extending it into a notification system with real-time status updates.
- Grew it in steps instead of replacing it, and delivered on schedule.

Skills

Languages	Python, Django, Go
Data	Data ingestion, file uploads and connected business systems, SQLite and Cloudflare D1
Infrastructure	Kubernetes, Docker, public cloud, Cloudflare Workers, systemd timers
AI tooling	Agent features in products, tools AI assistants can use (MCP)

Projects

- **Unfathomed.** A caving game about ropes, light and nerve, playable in a browser.
  Details alexmorais.com/projects/unfathomed/ · Play Unfathomed play.perplexistential.com
- **Hearthened.** A household food app that picks dinner, reads receipts and keeps the kitchen stocked.
  Details alexmorais.com/projects/hearthened/ · Open Hearthened hearthened.com
- **Farmer's Market.** Small Python services behind one API for products, specials and carts, run in Docker (2018).
  Details alexmorais.com/projects/farmers-market/ · See the code on GitHub github.com/ThatsAMorais/morais-farmers-market
- **Portfolio tracker.** A Python command-line tool that turns broker data into plain daily, weekly and monthly reports.
  Details alexmorais.com/projects/portfolio-tracker/